CAMPS, BILLETS, COOKING

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AMERICAN EDITION

EDITED BY

CAPTAIN E. J. SOLANO

1917

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CAMPS
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AMERICAN EDITION

SANITATION
ORGANIZATION
ROUTINE
GUARD DUTIES
INSPECTIONS
CEREMONIAL
BIVOUACS

By an Officer of the British Army

Edited by

CAPTAIN E. J. SOLANO

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Preface

This American edition of Camps, Billets and Cooking gives our Army men an idea of the British organization on these subjects. It will be noted that the British system is conducted on a different plan from American camps and cantonments. For instance, the cadet camps in England, comparable to our Officers' Training Camps, provide for small numbers—a company, or, at most, a battalion, while our new officers have been trained in large numbers in the various camps. It is the experience of the British Army leaders that the smaller the cadet camp the better can intensive training be accomplished.

After the new officers are qualified to take command they are moved to other small camps and watched and guided while they drill the recruits. Then the unit is moved to France where the last intensive touches are given.

The system of Billeting as in practice in Europe, is entirely new to our Army men, and it carries problems that must be studied. While the British Army leaders have learned that the American system of camps is superior to billeting, it is certain that many of our troops will undergo their first experience of living in houses of private families. In fact, many of the first troops sent over are now being billeted. Our army

leaders with the troops are frank in condemning this system, but find that there are cirucmstances which make it necessary to quarter the men in billets.

The training in France is a necessary preparation for service in the trenches and at the front, and it is of the most intense description. Said Gen. Pershing, the American Commander at the front, recently:

"The American troops, in order to be able to cope with the enemy on the battlefields of Europe, must be disciplined, physically and mentally, to the fine point where they can take their place in so delicately balanced a machine as a modern army.

"I can suggest no more easily understandable parallel than by comparing the training of a soldier with that of a football player in one of the great American colleges. In the first place, his perfect physical condition is sought as the primary requisite and he is kept fit through control of his food, exercise and rest. His hours of relaxation are supervised and the proper proportion of physical work, study, sleep and recreation is fixed.

"Secondly, he is taught the rules of the game. The strategy

of team play as well as the value of individual initiative are hammered into him. Thirdly, he is drilled in playing the game.

"The soldier must go through similar training. He must be healthy and taught how to keep his health, trained to be alert and soldierly, with quick attention and implicit obedience to commands given him. His sense of responsibility and his initiative should be developed, for there will be occasions when the man in the ranks will find all the officers wiped out and that he must direct the actions of his comrades. Here is where discipline and training will tell, for if a soldier has been taught the imperative necessity of carrying out orders he will feel himself equal to giving them.

"Our men must be 'standardized,' but that does not mean that they will be automatic machines. Their minds must work as well as their bodies, and this will be accomplished by our men, but we must start at the foundation to build up the edifice of our Army.

"This fact is not so widely understood at home, I believe, as it ought to be. We did not expect that our soldiers might be called to participate in the great European work, and the result is that our training lacked the thoroughness and finish essential to intelligent cohesion in action.

"To supply this is the work of the training camp, where also must be taught the theory and practice of the war game as played by the great armies now at battle grips. The realization at home of the vital importance of rigid discipline will reduce the labor to be done here, while appreciation by the men of the necessity of keeping in perfect physical condition will be of the greatest benefit to them as well as to the army as a whole. They must keep clean morally also and avoid the temptations to which they are exposed when on foreign service."

This book will be found extremely valuable to American Army officers in the work of preparing men for the battlefront; it should be studied, as well as are other British Army books of this series, in order to hasten the time in fitting men for the new and terrible experiences in France. The conscientious commander, from the major general down to the captain, will take advantage of the British experience, as given in the Harvey Military Series. He will gain the credit of having his men ready and fit before the commands of others who are too backward to include intensive training in their commands until shown by others in France.

W. H. Waldron,
Lieut. Col., U. S. Inf.

Camp Lee, Aug. 28, 1917.

CAMPS, BILLETS and COOKING

PART I

INSPECTION—SENTRY AND GUARD DUTIES

CHAPTER I

Section 1.—General Introduction.

1. **Fighting Experience.**—The British Army officers and men have gained more actual fighting experience in three years than the history of the Army reveals in the last 500 years. The methods used in 1914, when the first expedition went to France under Gen. Sir John French, are as obsolete now as the bow-gun would have been a dozen years ago. The tactics of yesterday must be given over for the improved methods of today. If a General or Colonel gets leave to visit home for a week he finds upon rejoining his command that a lot of things have transpired which necessitates a change in his methods. Knowledge in military tactics piles up over night. The rapidity of changes in what was once considered clever tactics is fairly startling. No one can appreciate these except the man on the spot. The military expert, visiting the battle line for the first time, is appalled by the science displayed in winning battles; he is astounded beyond any method of expression in language at the intensity of massed batteries in

action; at the methodical movement of huge bodies of troops, coordinated by some mysterious commands never heard; at the concerted action of men in charges and apparently without guidance; at the panorama of moving troops, some going to the front and others returning all tired out; at the continuous lines of motor trucks, ambulances and huge guns.

2. The observer wonders how all this can be controlled, but it is, for there is no sense of confusion and every man seems to know just what to do, and he is doing it with might and main. The military expert of former days soon makes up his mind that he would not do now even as a sub-lieutenant, for the organization and machinery of this year is so different from his training that he is lost completely. All previous training and preconceived notions seem to be of no use or value to the modern army, and, indeed, they are not, for all the military science of the ages has given way under the keen competition of a multitude of brains in meeting the experience of the present day.

3. While the new troops get their severest training "back of the line," and while this is as intensive as it is possible to make it, the recruits get to the trenches only to find that they must learn from actual experience, just as their comrades have done. The Germans try new tricks daily and the Allies also are inventing new ways of attack and defence every hour, so that a man sent back for a day's rest has to be posted when he finds his place in the trenches.

4. It is a marvel still to the initiated how the British Army maintained its place in the line of defence during the early months of the war without being driven into the sea; to say nothing of the greater marvel of conducting a vigorous and strikingly successful offensive against an enemy which

started in with all the military science of the ages drilled into its army. The Germans were the teachers at the beginning, for they had every detail as near perfect as possible, but they have found that their pupils have outstripped them, and are now the masters.

5. Careful Ground-work.—This being recognized by the world it is worth while to study the methods of organization and machinery which has been responsible for this great progress in military science. That there must have been a good organization at the start seems to have been proven by the results. Even though the Army at the opening of the war was small and had no incentive to perfect itself in the science of modern warfare, the ground work was there for expansion and the methods were adaptable for the gradual increase in efficiency. This race for perfection is going on day by day as experience shows the way.

6. It has been the criticism of some famous soldiers that the privates and minor officers of the British Army were not taught to show initiative or to bear responsibility. Probably these critics would be astounded now to see the change that terrific campaigns have brought about. The junior subs and the non-commissioned officers have come into their own. They have learned war lessons as fast as commanding officers, and now are the wisest men in the line. These young men and grizzled veterans have made places for themselves which has fairly amazed their superiors. The junior subs, most of them, started at the bottom of the army system and have gone through the entire training with an enthusiasm and thoroughness that have carried them to the trenches especially well equipped to command. This speaks volumes for the camp training system as now perfected.

Section 2.—Army Camps.

1. General Principles.—The British Army has always taken pride in its camp system, but the old officers never would know the present methods, so different are they from those formerly in use. Not that the general principles are different, for the new system was built up upon the well-grounded standards of the old, but experience has taught as much in caring for the men in camp as in showing them how to fight under modern conditions. The experience of the first few dark months taught that the men for the firing line must have intensive training and be a unit in discipline. The first training camps established in England did not measure up to the standard of the present camps in this respect. Haste was the watchword then, while now it is thoroughness. It is a military axiom that the success of an army depends upon spirit and discipline. To develop the former the training must be along the lines of bringing out the latent keenness of the men. A body of men trained to bring out initiative, keen perception and agility of mind and body will shine wherever put. Quickness is one of the most valuable assets of a soldier.

2. Care in Selecting Camps.—Training camps are now chosen with great care. They are vast areas where there will be plenty of room for all the activities which stimulate actual conditions in the field. New camp sites are chosen rather than continuation of old camps, for sanitation is as important to an army as rifles. The routine is so arranged as not to sicken the men of drudgery, but to keep them constantly occupied with new duties and new lessons. The primary course of training is guard duty, for this has not changed in principle for centuries. It is as important now to guard

against surprise as ever it was, and the ingenuity of the enemy is ever being exercised. The guarding against irregularities in the camps may have as beneficial effect as the alarm of a gas cloud. This guard training teaches discipline as nothing else in the camps.

Section 3.—Billets.

1. **Training for Billets.**—Quarters take the form of billets, close billets, bivouacs and camps. The former are peculiar to Continental armies, and it has been found that the regulations and restrictions for billeting must be taught with thoroughness and with stern descipline. There are many disadvantages in billeting, such as inconvenience, lack of proper sanitation, inconveniencing the house owners and separation of the men and consequent loss of discipline. To overcome all these disadvantages it is necessary to have the recruits in a proper frame of training or discipline will fly to the winds.

2. **How They Are Chosen.**—Life in billets in the field is a continuous struggle against insanitation and lack of morale. The billets may be a palace, hut or barn, and the officer in charge of billeting the men is, temporarily, the most hated man in the organization. The billeting party usually is an officer from each battalion and a company quartermaster sergeant. They have to find quarters for four companies, headquarters and its various details, for the transport and the quartermaster stores. All this must be provided for in a given area, and the troubles of the party may be imagined. Only hasty inspection can be made of the sanitary features and here is where trouble usually begins. When the officers are provided for, the men must take such accommodations as remain, and they are lucky if they have new, clean straw to sleep on under cover.

3. Diplomacy Needed.—It has been the experience that the French house holders are always willing to provide the best they have, if their confidence has not been misplaced by some organization which has partaken of their hospitalities. Diplomacy is the chief requirement of the billeting officers. The difficulties of the language must be overcome and the natural disinclination of the house owners to having a troop of men foraging over the garden and orchards. Here is where the discipline so patiently taught in the training camps shows whether it has been in vain.

4. Work to be Done.—These so-called "rest camps" may prove to be a misnoma, for oftentimes there is a deal of hard work to be done if the stay is to be long. Latrines must be dug and arranged with the greatest care by the sanitary officers. The cook-house must be provided, and the grease pit dug, the surroundings of the houses cleaned up, and ofttimes the village streets. The stores must be handy to the cook-house; the transport be accessible and the whole battalion must be under such discipline as to make it possible for the men to move within an hour's notice. All this entails a grasp of details which keep the commander and his men keyed up every hour in the day. Bounds for the men are fixed and other restrictions ordered to keep the men in hand. Guard duty is most important. If the billet is within 10 miles of the trenches there is danger of shelling and gas. There always is danger from fire and the guards must see that stringent orders against smoking in houses or barns where there is danger are obeyed. The alarm post is a necessary detail and the command must be always ready to "stand by" at a minute's notice to fight. To this end the equipment must be in such shape that it can be gathered quickly, packed and quarters cleaned up.

5. **Cleaning Up.**—It may be wondered how billets can be left scrupulously clean after a long occupation when the order to "stand-by" comes. This training is necessary and a good battalion is known by the way it leaves its billets. It may have only a few minutes to do it, but the billets should remain just as they were found upon occupation, with papers, tin cans and all other evidences of occupation completely obliterated, and with the latrines filled. This is one thing the campaign has taught.

6. **Inculcate Pride.**—Life in the billets is not one of rest, for drills must occupy all the morning and part of the afternoon, and there are duties which make the day one of hard labor. Yet a part of the day should be set apart for recreation and rest for the men. The restrictions upon this part of the day usually rests with the commander. If the men are to be trusted they may have extensive liberty to roam over the country or indulge in any form of amusement that will not inconvenience the natives. Pride in the organization, if grounded in the minds of the men, will do more to make the stay of a battalion welcome than any amount of disciplinary measures the commander may inaugurate. When it is pointed out to the men that a bad name in billeting will follow the organization all over France it will have the effect of keeping the men in restraint.

7. **Caring for Men.**—The medical officer has an enormous amount of work to perform in billets, for he must test all the water in wells or other sources of supply and must see that the food bought locally is fit for the men. Ponds for washing and bathing should be marked and allocated. There should be constant inspection of quarters to see that cleanly conditions prevail.

8. Guarding Against Spies.—In billeting in a village it may be necessary for the commander to take over the governing of the place, which he must do with much diplomacy. He will have the streets patrolled and may prohibit the leaving of homes by the occupants after dark and may restrict the movement of the villagers in the day light hours, for there is no other way to guard against the disseminating of information to the enemy. The movements of military bodies and all military information should be kept secret, and the men should be prohibited from talking on any subject pertaining to their commands. Courts should be established to deal with infractions of rules on the part of the inhabitants.

9. Intensive Training.—There may or may not be intensive training in preparation for the trenches. If the battalion is composed of recruits it is more than probable that seasoned men will be provided to instruct the command in all the arts of trench life and warfare. In that case it will be a busy few weeks for the recruits, for all kinds of trenches will have to be dug, entanglements rigged, instruction given in bombing and mortar work, manning the machine guns, throwing grenades, practice with gas masks, sniping and all the tricks that have been found in the enemy's long list of accomplishments. This will occupy from three to seven weeks, depending upon the excellence of the instructors and the adaptability of the men. It makes no difference if the men have had previous training in all these fine points of the warfare of the present, for the seasoned men from the trenches will be sure to have a bag of new tricks which will surprise the command.

10. Seasoning the Men.—There must be courses in sanitation and First Aid, care of health and what to do and how to do it for a hundred different things that the instructors

back home never thought of. The work will be so severe that the men will become seasoned on top of the seasoning which the instructors in the home camps thought would fit the men for any kind of arduous work. The men must be accustomed to heavy fire of artillery and the splitting crack of the light guns and automatics. They must be introduced to some of the sights and clamor of the firing line, so that they will not wilt at the first attack on the trench they are to take over. The officers must be instructed how to act when the fury of battle drives orders out of their head, or when orders are not forthcoming. The days will not be long enough to absorb all the details of this intensive training, but if the ground work has been well laid, and it is well nigh perfect now in England, it will surprise the seasoned instructors how fast the men will pick up the details. This sort of work has revealed a new characteristic of the British soldier—the keenness and quickness with which he can adapt himself to circumstances. Veterans never thought to see the day when a recruit could be made fit for the trenches with less than three months' training.

11. **Camps and Bivouacs.**—There are many points covered for the life in billets which apply to camps and bivouacs, but the problems of the latter are more simple and much easier to handle. There is extra work in setting up tents in temoprary camps, but there are many advantages of this sort of quarters over billeting. If the site is carefully chosen on dry, hard, sloping ground, with safe water in abundance, there is sure to be more satisfaction and more comfort than in any form except a permanent one in barracks.

Section 4.—Camp Organization.

1. **General Rules.**—The same general rules apply to

large and small units. Regular camps or billets are preferable for cadets or for seasoned men. It has been learned that camps for small units are preferable, either in England or behind the line in France. The smallest unit should be the company and, unless under exceptional circumstances, the largest unit should be the regiment. Each company must have enough ground to train the men properly, and there should be no congestion. The problems of water supply, transport and food makes the smaller unit more desirable. Sites for cadet camps do not involve the matter of defence or providing for large numbers of animals, transport, artillery parks and the like, while the sanitary, food and water problems are simple of solution. A good site would be open, rough ground, with clumps of trees about the camp site, plenty of terrain for field work and a rifle range, with no cultivated ground to damage. If there is running water for bathing and a small village near by so much the better. The company camps should be grouped in a territory so that the headquarters can be easily accessible to all parts of the unit by good roads. If the site is in a farming community it will be to the advantage of the farmers as well as the soldiers, for a supply of fresh vegetables, etc., would be profitable to the one and pleasing to the other. If cadets are billeted more time can be given to instruction as the men will be relieved from a lot of fatigue duty. On the other hand it is necessary to teach camp duties at some time, and it might be well started at the opening of camp. As discipline is the prime requisite for raw recruits it will be found that this can be taught and instilled better in camps. As the men are developed they will learn organization, resourcefulness, initiative and how to take care of themselves in camps which will stand them in good stead in the field. All camp and personal equipmment should be reduced to a

minimum. Severe restrictions should prevail on bounds for cadet camps, for it will not do to have undisciplined men wander about at will. After the men are real soldiers they can have more liberty in this respect. Punishments must rest with the commanding officer, but should not be severe except in serious cases warranting dismissal from the service. In such small camps it is a serious matter to take care of the sick, as medical officers cannot be supplied and the commander must depend upon his judgment in calling in a local doctor. It will be seen that the commander has an added duty to insure the health of the cadets. He must guard against over-fatigue and exposure until the men are innured. Sec. 26 on Training and Recreation should be carefully carried out, for it is highly important. This section has been written after long and costly experience.

2. Starting the Camp.—In Cadet camps the secretary does the preliminary work of getting the equipment and stores to the site. He is followed by the quartermaster, who preceeds the cadets and takes over the stores, plans the camp and has it in readiness for the cadets upon arrival. Full directions are given in Secs. 28 and 29. The transport officer has his duties outlined and he must have everything in readiness when the commander gives the word to proceed to camp. The procedure for return of equipment is given in Sec. 33 upon the breaking of camp. A well planned and efficient scheme of routine has been planned, after the last three years of experience, and commanders are expected to follow this as closely as possible. Every hour must account for results and unless the plan is followed it will throw back the previously arranged schedule of the army heads. Several sections are given over to routine, and the plans will be found effective.

Section 5.—Ceremonial.

1. **Importance of Ceremonial.**—The subject of ceremonial should be taught according to the amendments to the *Manual of Ceremonial.* The accompanying illustrations, Fig. 1-5, shows the movements of Drawing the Sword. Fig. 6-9 show the Officers' Salute. Fig. 10 shows a Company Marching Past. Fig. 11 shows a Battalion in Line. Fig. 12 shows a Battalion in Close Column of Companies.

2. **The Company Formation.**—On ceremonial parades the four platoons of a company will not be kept intact as distinct units, but the men of the whole company (including section commanders below the rank of sergeants and signallers) will be formed in two ranks, regardless of the platoons to which they belong, the tallest being on the flanks, and the shortest in the centre. This is termed sizing the company. When the company has been sized, it will be numbered from right to left; it will then be told off into platoons, which will be numbered from 1 to 4 within each company, and not from 1 to 16 throughout the battalion, as is normally the case.

3. **Sizing a Company.**—The whole will break off and arrange themselves in single rank according to their size, the tallest on the right and the shortest on the left, carrying their rifles at the short trail, and will take up their dressing by the right.

Number.—From right to left of the whole company.

Slope—Arms. Odd Numbers One Pace Forward. Even Numbers One Pace Step Back—March.—The odd numbers wil take one pace forward, and the even numbers will step back one pace.

No. 1 Stand Fast. Ranks Right and Left—Turn.—The

odd numbers, with the exception of No. 1, will turn to the right, the even numbers to the left.

Form Company. Quick—March.—The whole will step off, the even numbers wheeling round to the right and following the left-hand men of the odd numbers. No. 3 will form up two paces in rear of No. 1; No. 5 on the left of No. 1; No. 7 in rear of No. 5; No. 9 on the left of No. 5; and so on. The leading men of the even numbers will always form in the rear rank, and the next man in the front rank. As the men arrive in their places, they will turn to the left, order arms, and take up their dressing.

Note.—If space is limited, a company may be sized in two ranks, tallest on the flanks, shortest in the centre.

4. Telling off or Proving a Company.—(i) A company will be told off into platoons by calling out the numbers of the left-hand men of platoons. When the number of files is not divisible by four, the outer platoons should be the stronger. The method is made clear by the following commands and directions. These are based on the assumption that there are 42 men in the front rank (i. e., 42 files), but the same system holds good whatever the strength of the company may be.

(i) Company—Number.—The company will number off from right to left.

(ii) Eleven.—No. 11 of the front rank will *prove* by extending his left forearm horizontally, elbow close to the side.

(iii) Left of No. 1 Platoon.—No. 11 will drop his arm to the side.

(iv) Twenty-One.—No. 21 of the front rank will *prove* in the same way as No. 11.

(v) Left of No. 2 Platoon.—No. 21 will drop his arm to the side.

(vi) Thirty-One. (vii) Left of No. 3 Platoon.
(viii) Forty-Two.(ix) Left of No. 4 Platoon. } As above

(ii) The company commander will then see that the men know their numbers and the platoons to which they belong by forming fours and such other preliminary tests as he may consider desirable.

5. Position of Officers and N. C. O.'s in Line.—The company commander, who will not be mounted on ceremonial parades, will be ten paces, the officer second in command three paces, in front of the centre of the company. Platoon commanders, when officers, will be three paces in front of the centre of their platoons. If there are less than four officers commanding platoons, the officer second in command and the platoon commanders will divide the company frontage equally between them. The company sergeant-major and company quartermaster-sergeant will be respectively on the right and left flanks of the front rank, acting as guides. Sergeants, whether temporarily commanding platoons or not, will be two paces in rear of the company at equal intervals apart, forming what is termed the supernumerary rank. All other N. C. O.'s will be in the ranks.

6. Marching on the Color.—(i) The company being drawn up in line, the company commander gives the order: *Nos.* 1 *and* 2 *platoons three paces right close; Nos.* 3 *and* 4 *platoons three paces left close—march.* A space for the color party is thus left in the centre of the company.

(ii) The color party, having received the color at the place where it is kept, marches to the parade-ground, and halts at some distance from the company. The company commander then gives the order *March on the color,* when the color party will take up its position in the centre of the company, level with the front rank, the color being held at the *carry.* When

marching to its position, the color party will advance towards the front of the company or along the front of the front rank; it will never move into place from the rear of the company.

(iii) When the color party approaches the company, the company commander will give the orders *Slope arms* and *Present arms.* When the color party is in position, he will order the company to slope arms, and, if the company is to be inspected by a reviewing officer, he will order arms and await his approach.

7. Battalion Formation.—For ceremonial parades all companies will be made as nearly as possible of equal strength. Figs. 11 and 12 show a normal four-company battalion in line. Distances are given in paces. The battalion commander will be 15 paces in front of centre of line. The senior major will be 10 paces in front of the right guide; the adjutant 10 paces in front of the left guide. The companies are 12 paces apart in close column. The senior major will be on the right flank, three paces from the first and second companies, and the adjutant behind between the third and fourth companies. Company commanders will be three paces from the left flank; second officers three paces in front of centre; platoon commanders three paces in front of the centre of platoons.

8. Marching past by Companies.—(i) Points having been placed as described the battalion will first change from line into close column of companies in rear of the right-hand company (No. 1).

Slope—Arms. On the Right form Close Column of Companies. Remainder, Form—Fours. Right. Quick—March.—The whole line will slope arms. All but the right-hand company (No. 1), which wil' stand fast, will then form

fours, turn to the right, and move into the formation of close column of companies in rear of the original right-hand company (No. 1).

(ii) The battalion will then be moved into position on the saluting base.

Move to the Right in Fours. Form—Fours. Right. No. 1 will direct. Quick—March.—The whole will form fours, turn to the right, and march towards the first point, the left of the original right-hand company (No. 1) being directed on that point.

Change Direction Left. Left—Wheel. Forward by the Left.—On the command *Left wheel,* which will be given when the battalion reaches the first point, a left wheel will be made, the battalion moving forward on the command *Forward* as soon as the change is completed.

Halt. Left—Turn. Battalion Right—Dress.—On the command *Halt,* which will be given when the batttalion reaches the saluting base, the right guides will turn about and be covered by the adjutant, who will give the command *Steady.* On the word *Steady* the right guides will turn about, and the right-hand man of the front rank of each company will immediately correct his dressing by the right guide. On the command *Right—dress,* the right guides will dress their companies and give the command *Eyes—front.*

(iii) The march past will then commence.

March Past by Companies by the Right.—The commander of No. 1 will give the command, No. 1, *By the right, quick—march,* the remaining companies following in succession at forty paces' distance or as ordered.

9. Position of Officers when marching past by Companies.—The battalion commander will be fifteen paces in

front of No. 2 platoon of the leading company, the senior major in front of No. 3 platoon, in line with the battalion commander. The adjutant will follow ten paces behind the centre of the rear company. Company officers will be in the position laid down.

10. Officers' Salute when marching past by Companies.—Mounted officers will salute when they arrive at point A. Company officers will salute at a point 10 paces outside the saluting base. The battalion commander after he has saluted, will move out and place himself on the right of the reviewing officer, and remain there until the battalion has passed, the senior major assuming command.

11. Position of Officers when marching past in Close Column.—When marching past in close column of companies, the battalion commander will be fifteen paces in front of the centre of the leading company. The senior major and the adjutant will be ten paces in rear of the centre platoons of the rear company, the senior major nearest the saluting base. Company commanders will be three paces from the outer flank of their companies. Officers second in command of companies and officers commanding platoons will be as in line, but dividing the frontage of their companies equally between them.

12. Other Movements on Inspection Parades.—(i)—**Advancing in Review Order.**—This movement will seldom be required of cadet battalions. It is executed as under:

Advance in Review Order. Quick—March.—The battalion having been formed into line, with bayonets fixed and arms sloped, will advance by the centre, the band and drums playing till within thirty paces of the reviewing officer, when it will be halted and ordered to salute in the same manner as

when receiving him; after which it will be directed to order arms, and will wait for orders.

(ii) **Marching past in Column of Route.**—On the completion of a parade the reviewing officer may direct the battalion to march past him in column of route. This being the ordinary formation of fours in which a battalion marches along a road, hardly comes within the scope of ceremonial drill; but attention is called to the following points:

The battalion commander, with his adjutant, rides at the head of the column, and the senior major in rear of it. The company commander and company sergeant-major march at the head of each company, the second captain and company quartermaster-sergeant in rear. Platoon commanders march in front, and platoon sergeants in rear, of their respective platoons. In no case will more than four individuals march abreast.

Section 6.—Rations and Cooking.

1. What to Cook and How to Cook It.—The British soldier is one of the best fed of any in the world. While he may have been over-fed in the past the experience of the last three years has taught the army just what to provide and how to make the mess appetizing and strengthening. The first duty of the mess officer should be to inspect and pass upon all food before it is cooked so that no stomach disorders can be laid to the food. Officers in charge of food are taught how to pass upon it according to regulations, and they should be careful and thorough in their inspection. The ration and dietary tables show just what to furnish daily to make a balanced ration. A section is devoted to cooking recipes.

Section 7.—In the Field.

1. When the home camps are broken up and the men sent to France for final training the same rules to govern camps, billets and bivouacs will apply. The circumstances will vary, but the adaptable commander will have no difficulty in making his work efficient. The intensive training will bring up new problems, but the seasoned instructors will know just what to do and how to do it thoroughly and quickly. It is an art in itself, and only mastered by months of experience on the firing line. More room will be needed than in the home camps and the work will be more exacting and severe in order to season the men to hardships and strenuous work.

2. **Lessons of the Trenches.**—There are many things in the life in the trenches which have been learned for the benefit of the men who are to occupy them. There were new problems of sanitation never before experienced, and these have been solved by brilliant medical minds after bitter sufferings. Every sector has its problems, from the wet morasses to the sand dunes along the coast. The gratifying lessening of the sick reports shows that the Army owes a deep debt of gratitude to the medical men for the way they have handled one of the most difficult phases of the present war. The engineers have helped by the excellent working out of plans for the Field Entrenchments. The latrines and dugouts have been so wisely planned that the usual disorders where large bodies of men remain practically immovable are practically discounted. The quartermaster service has devised ways of feeding the men with fresh, wholesome food which not only satisfies, but gives the men the elements of food to maintain strength and prevent lassitude where there is little exercise for the body. Continual vigilance and constant inspection is now the safeguard for the life in the trenches.

3. Care of the Feet.—It has been said that there were two important ends to the soldier—the head and the feet. Some have even declared that there is only one—the feet. Every experienced army officer knows the importance of caring for the feet of his men, from the careful fitting of shoes and socks to precautions in bathing and laving the sore members in chemical solutions. The test of the feet comes when the recruit is taught to march. It is an axiom in the army that civilians walk while soldiers march, and there is a great difference. When a column starts off on a 15-mile march as a day's work, each soldier carrying a load of 60 pounds, he must shoes that have been broken in should be used; the socks should be soaped at the heel and toes; the feet should be bathed in soapy water. At each stop of any length of time the feet should be washed and the blisters taken care of, and at the end of the march the first thing to do is to care for the feet.

4. Trench Feet.—One of the great troubles is caused by what is termed "trench feet." It has incapacitated more men for short periods than disease. In wet trenches, especially in the cold months, the feet swell and become so tender that it is almost impossible to stand. Frost bites add to the pain and a soldier with trench feet is of no use on the firing line. The medical officers now provide foot baths, relays of dry socks and shoes and a solution of "anti-frostbite." If the men are taken care of at the time, the loss of their services will be reduced to a minimum.

CHAPTER II

INSPECTION

Section 7.—General Remarks.

1. The Value of Inspection.—The principle which underlies the whole science of military training in every branch and for every arm is that training must be carried out on a homogeneous and consistent system throughout the British Army. This rule is also laid down as a fundamental principle of Imperial defence, and applies not only to the British Army, but to the military forces of the whole Empire. The need for this principle is obvious, for, unless the various units of the Imperial forces which are scattered in different parts of the World are organized and trained upon a consistent system, it will not be possible for them to be organized quickly and easily for effective combined action for the defence of the Empire in a supreme emergency.

2. The principles upon which British troops are trained in all branches of instruction are very clearly laid down in the various official textbooks. This is done so that there may be no confusion or mistake regarding the methods to be employed or the exact nature of the instruction. But this alone is not sufficient to insure that the principles of instruction in any branch are being applied in practice correctly and consistently to the training of troops by the officers of all the different units of the army in various places. It is to insure that this is being done that periodical inspections are carried out at convenient times every year while troops

are actually under instruction—generally during the period of their field training.

3. Inspection of Cadet Corps.—The function of officers who inspect cadet camps will not differ materially from that of officers who inspect troops, and in a sense their duties will be no less important; for cadet corps are now recognized as part of the military system of the Empire in the Mother Country and in the Dominions. The training of the soldier is commenced in these corps in those parts of the Empire in which instruction in them is obligatory, and this may also be the case in other parts where instruction is voluntary. It is therefore essential, if trouble, delay, expense, and confusion, are to be avoided when cadets join the regular and citizen forces of the Empire as soldiers, that their training as cadets in every part of the Empire should be carried out upon principles strictly consistent with those laid down in the official textbooks of the British Army, upon which the manuals of this series are based. It will be the important duty of officers inspecting cadet corps to guide cadet officers and instructors so as to insure that in every stage of their training the instruction of cadets, so far as it goes, is being carried out upon consistent principles and correct methods.

4. Inspections, therefore, should form a regular part of the training of cadet corps. The place and time for carrying out inspections must depend upon circumstances in each case, and no general rule regarding them can be laid down. It is clear, however, that the camp training period affords a good opportunity for carrying out inspections, because various units, which might otherwise have to be inspected separately in different places, may be assembled together in camp and can be inspected together.

5. Hints for Inspecting Officers.—(i) A thorough inspection, carefully carried out by an efficient inspecting officer who is ready and able to point out where and how

improvement can be made, should provide most valuable instruction to both officers and cadets. A casual inspection has no military value. The inspecting officer must recognize what are the salient points to look into, and not allow himself to waste time on small matters which are easily remedied and are of less importance. At the same time, he must not neglect details, however small. He should make up his mind, before he commences, as to what he wants to see and find out. Faults which require correction should be pointed out, and information as to the best method to remedy them should be given,

(ii) **Faults.**—If faults arise from carelessness, laziness, or want of discipline, they should certainly be criticized severely; but any faults arising from want of either experience or training which it has not been possible to obtain should be treated leniently, and corrected in such a manner that those inspected feel that instruction is being imparted and experience gained—not that they are being censured for what they are not wholly to blame. Inspecting officers should do all in their power to make their inspections really helpful and instructive to those whom they inspect.

(iii) **Praise and Blame.**—It is a mistake to give praise where it is not really deserved. On the other hand, criticism must never be unduly harsh. Officers inspecting cadet corps must remember that both cadet officers and cadets, however earnest they may be in learning their work as soldiers, may have to be trained to some extent under disadvantages, such as a limited time for instruction and more or less inadequate facilities in the shape of ground and equipment. Under these circumstances, unmerited praise will not encourage cadets, while unduly harsh criticism regarding imperfections, due partly or wholly to want of opportunities for training, will be unjust and calculated to dishearten them.

(iv) **Unnecessary inspections.**—Though inspections are essential for the efficiency of units and the value of cadet corps as a whole, unnecessary inspections will prove irksome, and should be avoided. The better trained and more efficient cadets are, the less wearisome inspections will prove, for in this case no special preparations are necessary to prepare for inspection, because an efficient corps is always fit to be inspected at any time. Special preparations for an inspection are only necessary when cadets are not thoroughly trained, and are to some extent inefficient and unready.

6. Inspection of Cadets in Camps and Billets.—The inspection of cadets in camps and billets should be carried out by an officer who is not connected with the units he inspects. He should, if possible, be a Regular or Territorial officer of experience. If the services of such an officer cannot be obtained, the inspection may be carried out by the officer commanding the units quartered in camps or billets. When an officer is not connected with any of the units he inspects, the inspection will probably be completed in a day. If, on the other hand, units are inspected by their commanding officer, it will not be necessary to arrange a special occasion for the inspection, as he will have opportunities for a more or less continuous inspection of units without the need of inspecting them at any particular parade (Sec. 9).

7. Ceremonial Inspection.—If time is available, the inspecting officer should certainly hold a ceremonial parade, however small the number of cadets in camp may be. He will have a good opportunity on this parade of noting the physique, steadiness, and general appearance, of the cadets as a whole; and by passing down the ranks he will be able to make a close inspection of each cadet. Moreover, a ceremonial parade appeals strongly to the soldiery instinct, and serves to arouse a natural feeling of pride in each individual taking part in it. Detailed instruc-

tions for carrying out the more ordinary movements executed on ceremonial parades by the company and battalion are contained in Chapter I.

Section 8.—Inspection of Training and Interior Economy.

1. The inspection of cadets quartered in camps or billets should be devoted to matters which may be classified under two heads—namely, *Training* and *Interior Economy*. Under the head of Training will come all matters relating to the instruction of cadets in military duties, both in the field and in the camp. Under the head of Interior Economy come all matters affecting the management of the camp—for example, equipment, questions relating to sanitation, food and water-supply, etc.

2. The method of carrying out the inspection of the training of the cadets must naturally depend entirely on the nature of the work being carried out in the camp. If it is a large camp at which a comprehensive scheme of training is being carried out, it will be best for the inspecting officer to arrange a tactical exercise in attack and defence, which will give him an opportunity of testing the cadets and their leaders as fully as possible. On the other hand, if the camp is a small one, at which it has not been possible to go in for such an extensive form of training as described above, the inspecting officer may arrange for something more simple, such as simple exercises in the duties of outposts. No definite rule, however, can be laid down, and inspecting officers must use their discretion in carrying out their inspection as thoroughly as possible.

3. **Points for Criticism.**—The following points, apart from the general scope of the training and its consistency with the principles of the army textbooks, upon which emphasis has already been laid, are suggested as a rough

guide to officers inspecting cadet corps, as subjects for criticism and remark:

(i) The discipline of cadets.
(ii) Their intelligence, smartness, and general appearance.
(iii) The ability of the officers and cadet N.C.O.'s to command and instruct.
(iv) The physique and condition of cadets.
(v) Their efficiency in military duties.

The discipline of cadets may be judged by the manner in which the guard turns out and the sentries salute, and by their general bearing, as, for instance, whether they slouch or move in a brisk and soldierly way. The manner in which they perform their military duties, especially in the case of field exercises, will also enable inspecting officers to judge of the discipline in cadet corps.

4. Intelligence and Smartness.—The general intelligence of cadets may be tested by asking them questions, by listening to them passing verbal messages, by watching them in their conduct and movements during the training. Their smartness and general appearance may be judged by a short ceremonial parade, at which the inspecting officer can walk down the ranks and examine the cadets closely. He should note how they handle their arms on parade and their steadiness in the ranks during the march past.

5. Military Efficiency.—The efficiency of officers and cadets in military duties should be judged by practical tests. These tests, when possible, should consist of simple tactical schemes in field exercises. In watching such exercises, inspectors should particularly note the ability of officers and N.C.O.'s to command and lead their cadets. He should note carefully whether both officers and cadets carefully apply under practical conditions the principles which govern the more important principles of field training, as, for instance, the use of ground and cover, forma-

tions, methods of advance, co-operation between different units, and fire direction and control.* Simple tactical schemes in outpost duties by night as well as by day give an inspecting officer good opportunities for testing the knowledge, initiative, and resource, of officers, N.C.O.'s, and cadets. Elementary night operations also constitute an admirable test of discipline as well as of military efficiency, as absolute silence, implicit obedience to orders, thorough comprehension of orders, and skilful leadership, are all essential for success.

6. As a guide to inspecting officers as to points for criticism in a field exercise consisting of a tactical scheme, the following may be mentioned as faults which are most likely to be committed by cadets in outpost exercises:

(*a*) Too many sentries and pickets are employed.

(*b*) Isolated sentries are posted too far from the groups to which they belong.

(*c*) Patrols are sent out with no definite mission to perform.

(*d*) Positions chosen for pickets are not suitable for defence.

(*e*) Men of pickets do not know the positions they are to occupy in case of alarm.

(*f*) Supports are too far from the pickets.

(*g*) There is too much shouting, talking, and movement in the picket line.

(*h*) Sentries have not been properly instructed as to section of the ground in front of them which they are to watch.

7. Special Classes.—If there are any special classes of instruction being carried on—for instance, signalling or first aid—the inspecting officer should make a point of seeing them at work, to ascertain whether the instruction is in accordance with the regulations on the subject, and if the progress of the cadets is satisfactory.

* See chapters vi. and vii. of the *Drill and Field Training* Manual of this series. See also the *Musketry* Manual of this series.

8. **Inspection of Interior Economy.**—If the inspecting officer is not connected with the units inspected, he should take note of the following points with reference to the interior economy of camps:

(i) The general appearance of the camp, the suitability of its site; the pitching of tents. correctness and alignment of poles and tent-pegs.

(ii) The sanitary arrangements, position and sufficiency of latrines, general cleanliness of the camp lines, disposal of refuse and rubbish.

(iii) Feeding arrangements, kitchens, quality and quantity of food.

(iv) Hospital arrangements; care of the sick.

(v) Recreation and refreshment tents for cadets and staff sergeants' mess.

(vi) Officers' mess; arrangements and cost of messing.

The inspecting officer should go round some of the lines during the dinner-hour and satisfy himself that the cadets are sufficiently fed and are contented with the feeding arrangements.

Section 9.—Inspection by Commanding Officers connected with Units.

1. When the inspections are carried out by battalion commanders or officers commanding camp, the inspecting officer will make it his business to ascertain and report on all the different points which are mentioned in Sec. 8. He will be able to make a more thorough and continuous inspection than an officer who may be sent to the camp especially to inspect it. Besides the points already mentioned, he should note whether the cadet officers are carrying out their instructional duties in a satisfactory manner and in accordance with regulations.

2. At least once during the training he should inspect the

lines of each battalion or company under his command. The commanding officer should endeavour to do this every morning. For this inspection the tents should be completely cleared, the kits and blankets laid out in regular lines, the cadets in line behind them. The commanding officer should walk along each row of tents, see that all ground in the vicinity of each tent is clean and swept up, and also all roads between battalions and companies for the cleanliness of which the companies under his command are responsible.

3. Cutlery, cups and saucers, plates, washing pots, mess tins, must all be laid out and spotlessly clean; and any spare rations, such as bread, jam, etc., which is being kept over for another meal, should be put away in a dry, clean receptacle provided for the purpose. The commanding officer should also make a point of often visiting his lines during meal hours, to ascertain that the food is sufficient, of good quality, and well served.

4. He must pay particular attention during each inspection to the condition of the rifles of cadets if they bring these to camp, unless, of course, they are mere dummy rifles used only for the purpose of drill, and not for firing.

CHAPTER III

SENTRIES AND GUARD MOUNTING

Section 10.—Sentries.

1. General Remarks.—The duties of outpost sentries, which are dealt with in the *Drill and Field Training* Manual of this series, are entirely different from those of sentries furnished by the guard which is mounted daily in camps and barracks. The orders to such sentries are to walk about their post in a brisk and soldierly manner. Their chief duty is to prevent any irregularities in or near the camp or barracks. In carrying out his duties, a camp sentry has the opportunity of helping very materially towards maintaining the good name of his regiment. The state of the discipline in a regiment can fairly accurately be gauged by the manner in which its guard duties are performed, and by the smartness with which the sentries walk their posts and salute.

2. Number of Posts.—(i) The number of posts for which sentries are to be found in cadet camps or billets will be decided by the adjutant or camp commandant. In large camps, where battalion lines are side by side, the flank battalions will generally find three posts : one on the front, one on the rear, and one on the exposed flank of the camp. Two posts, one on the front and one on the rear, will usually be sufficient for each of the battalions in the middle.

(ii) A battalion or detachment camped by itself will require the front, rear, and both flanks to be watched. The number of sentries which will be required to do this will depend on the size of the camp. If a small one, two sentries will probably suffice, as one sentry could watch the front

and one flank of the camp, while the other sentry could watch the rear and the other flank. If the camp is a large one four sentries will be required.

3. Duties of Sentries.—(i) A sentry should never stand easy. If he does stand at ease, he should always do so properly and at one end of his beat. He must keep a keen watch about him, and make sure that he does not neglect to pay the proper compliments. A sentry must be smart in appearance, intelligent, and well informed. He must be able to recognize the badges of rank worn by officers both of the navy and army. He must know his orders thoroughly and understand them clearly. The orders for a sentry posted in cadet camps or billets will be made out by the adjutant of the battalion or camp commandant. In general the sentry's duties will be—

(*a*) To take care of all camp property in view of his post, and to allow none to be removed or touched except by an authorized person.

(*b*) To inquire the business of anyone not connected with the camp who may try to enter the lines, and, if necessary, direct the latter to the guard-tent or call the commander of the guard.

(*c*) To allow no one to loiter about on his beat,

(*d*) To allow no man to leave camp improperly dressed.

(*e*) To report to the commander of the guard if he sees any suspicious characters enter the lines.

(*f*) To challenge all persons approaching his post after dark, and not to allow them to pass unless he is satisfied that they have a right to be there.

(*g*) To take the name of any man passing his post to go to the latrine after dark, and report to the commander of the guard if the man is away an unnecessarily long time.

(*h*) If there is a fire or any disturbance in camp, to immediately alarm the guard.

(*i*) If there is any talking or noise in any of the tents after

Lights out, except in the tents of those who have special permission, to report the matter to the commander of the guard

(*j*) To pay proper compliments.

(*k*) To turn out the guard on the different occasions already specified.

(*l*) When posted over the guard-tent he will, if there is time, warn the guard that they must turn out, by saying in a low tone of voice, *Stand by the guard*. He will then give the order: *Turn out the guard*, in a loud voice. This will help to insure that the guard turns out together.

(*m*) When posted over special places, such as the officers' lines or near water-taps, etc., he will receive special orders.

(ii) When a sentry is visited by the captain or subaltern of the day he must be prepared to be able to repeat his orders and know what his duty is. A sentry's front is away from the camp or property which he is guarding. When turning about at the end of his beat, a sentry will turn outwards—*i.e.*, towards his front.

4. Sentries Challenging.—(i) When it becomes dark, the sentries will challenge in the following manner: On the approach of a person, the sentry will call out in a sharp tone: *Halt! Who comes there?* When on a post where a sudden rush could be made upon him, he will at once come to the engage,* but without drawing back the right foot. If the person approaching gives a satisfactory reply, the sentry will say, *Pass, friend; all's well*, remaining at the engage till he has passed. If the person approaching answers, *Visiting rounds*, the sentry, if there is no countersign, will say, *Pass, visiting rounds; all's well*. But if there is a countersign he will say, *Stand, visiting rounds; advance and give the countersign*, at the same time coming down to the engage. In this position he will receive the countersign, and if it is correct,

* In coming to the *engage* from the *slope*, seize the rifle with the right hand at the small, and come to the *engage*.

will say, *Pass on, visiting rounds; all's well*, and proceed as above described.

(ii) If the sentry is on or near the guard-room door he will proceed according to the directions for turning out the guard at night for visiting rounds. See p. 45.

5. Sentries Saluting—(i) **Armed Sentries.**—(*a*) Armed sentries salute by presenting arms to all officers in uniform above the rank of captain and to armed parties between reveille and retreat

(*b*) By standing facing the front, with the rifle sloped, the right hand on the small of the butt, forearm horizontal, back of the hand to the front, fingers extended. This salute is given to all officers under the rank of major.

(*c*) By standing facing the front with the rifle sloped but with the right arm at the side. This is done after retreat.

(ii) **Unarmed Sentries.** — Unarmed sentries will salute by turning to their front, placing the cane under the left armpit in a horizontal position, ferrule to the front, and saluting with the right hand.

(iii) Sentries will not present arms to any officer or armed party after retreat; but as long as they can discern an officer they will come to their front on his approach and stand steady with the rifle at the slope till he has passed.

(iv) Between reveille and retreat sentries will present arms when armed, or salute with the right hand when unarmed, to all officers above the rank of captain, and all armed parties. They will halt and turn to the front to all other officers in uniform and to unarmed parties. Unarmed sentries will salute.

6. Relieving and Posting Sentries.—(i) On the approach of the relief, the sentry, with rifle at the *slope* will place himself at the end of his beat nearest to the advancing relief. The corporal of the relief will proceed as follows:

Relief, halt—at about six paces from the sentry.

The new sentry will then move out from the relief and fall

in on the left of the old sentry, facing in the same direction; the old sentry will then give over his orders; the corporal seeing that they are correctly given and understood.

Pass.—The old sentry will move to his place in the relief and the new sentry will close two paces to his right.

Relief Quick March.—The relief will be marched off.

(ii) When a sentry who is to be posted in a new place has reached the post assigned to him, he will be ordered to halt and face in the required direction. The corporal will then read and explain the orders to him.

(iii) The object for which he is posted, the front of his post, and the extent of his beat, will be clearly pointed out to a sentry when first posted. Sentries must not quit their arms, lounge, or converse with anyone on any pretence. Sentries moving about on their post will always turn outwards when turning about.

7. Marching Reliefs.—Reliefs of fewer than four men will be formed in single rank, when of four men or upwards they will be formed in two ranks (in streets or narrow places reliefs should always be marched in single rank). When marching in line, the corporal will be on the right, when in file (or as in file) he will be on the right of the rear file (or man).

Section 11.—Guards.

1. It will rest with the Brigadier or camp commandant whether guards are formed by day and night in cadet camps or billets. They may be necessary by night, and may be advisable by day as well. Although training in guard duties is good for cadets from a disciplinary point of view, they should, as already stated, be reduced to a minimum, together with the sentry duties* they involve, to set cadets

* This remark does not apply to the duties of outpost sentries which form are an important part of their field training by day and night.

free for more important branches of instruction for which training in camp affords valuable opportunities.

The hour at which guards will mount will also rest with the Brigadier or camp commandant or his staff officer or adjutant. In cadet camps when time is available the evening is the best hour for guard mounting.

2. Detailing for Guard.—(i) A sentry belongs to the guard which is mounted daily. His company is detailed by the sergeant-major to find a given number of N.C.O.'s and men for the guard. The company orderly sergeant keeps what is called a roster. This is a roll of the company. Whenever a man does a guard, fatigue, or any other duty the date on which he performed the duty is placed against his name. Each man takes his turn of guard if he is what is called a duty man. A duty man is one who does not fill any special post, and is qualified to go on guard. If he is a clerk, an officer's servant, a company cook, or storeman, or is otherwise employed, he is not taken for guard, and is thus not reckoned as a duty man.

(ii) As soon as the sergeant-major says that a certain company will find a number of N.C.O.'s and men for the guard, the orderly sergeant looks down the roster and details the duty men on his roster who come next for guard. In the army when in barracks men are warned for any duty for which they are detailed by means of a list posted on the company's notice-board. The men themselves are held responsible for finding out each day what duty they are detailed for on the following day. In cadet camps, where notice boards are not available, cadets may be warned personally for duties.

(iii) When a man knows he is for guard duty on the following day, he generally sets about getting his accoutrements and clothes cleaned rather more carefully than he would perhaps for an ordinary parade, as the adjutant and sergeant-major make a much more complete inspection of the men at guard

mounting than the captain of a company would have the time to do.

3. Guard Mounting.—(i) At a fixed hour on the following day the men for guard duty fall in under the orders of the sergeant-major. There is no regulation way for a guard to fall in for inspection.

(ii) As soon as the guard has fallen in, and the men composing it have been reported present or otherwise by the company orderly sergeants to the sergeant-major, they are called to attention, and ordered to right-dress. Bayonets are then fixed, the men stand at ease, and wait for the arrival of the adjutant. On the approach of the latter, the sergeant-major orders the guard to slope arms, and then reports the guard present or otherwise to the adjutant.

(iii) The adjutant then gives the command *Order arms*, and proceeds to inspect the guard. This inspection is a very minute one, and any man dirty or improperly dressed is severely dealt with. Bayonets are then unfixed, and the rifles are inspected. It is generally the custom for the cleanest man detailed for guard to be picked out. On being selected, the clean man falls out, and moving round to the rear, falls in on the left of the waiting man. As soon as the guard is marched off, the clean man goes to his room or tent, puts away his rifle, and then takes up his post at the orderly room, as commanding officer's orderly for the day. This is a coveted duty to be selected for. A good soldier will naturally be proud of himself for being picked out as a clean man. His duties are light, and he escapes sentry duty. It is recommended that this selection of a clean man is also carried out on cadet guard mountings.

(iv) After the clean man has fallen out and the adjutant has completed his inspection, the commander of the guard is ordered to tell off his guard. He steps to the front, and

the corporal in the rear rank steps forward and takes his place. The guard is again dressed, and the commander tells off each man, either as first relief, No. 1 post, or second relief, etc. He then falls in in rear of the guard.

(v) The sergeant-major then calls on the commander to report whether all is correct, salutes adjutant, and reports *Guard correct, sir.* The adjutant calls the guard to attention, fixes bayonets, and slopes arms. The guard is then marched off. The dress for guard mounting is usually review order, with or without greatcoats, as ordered. If the greatcoats are not worn on guard mounting, they are taken down to the guard-room or tent along with the men's bedding, etc., for the night. In camp the guard wears marching order.

(vi) The way in which guard mounting is carried out varies slightly in different battalions, but the above procedure is sufficiently simple, and is recommended for cadet corps. If the corps are unarmed, the cadets should carry canes, and go through the same drill except the arm drill described above.

4. Relieving Guards.—(i) The following directions laid down for infantry should be followed as closely as possible by cadet corps, armed or unarmed:

(ii) **General Rules.** — (*a*) When guards turn out, they will fall in with sloped arms and fixed bayonets if armed; if unarmed, the commander only will carry a cane, which will be placed under the left armpit in a horizontal position, ferrule to the front.

(*b*) The non-commissioned officer in command will fall in on the right of the guard.

(*c*) Guards, including reliefs, rounds, and patrols, will march with sloped arms and bayonets fixed. In wet weather arms will be carried at the secure. Armed sentries are to patrol with sloped rifles; unarmed sentries will carry a cane in the right hand at the trail—*i.e.*, in a horizontal

position at the full extent of the right arm and grasped at the point of balance.

(*d*) Guards will not turn out after retreat or before reveille, except at tattoo, on the approach of an armed party, in cases of alarm, or to receive visiting rounds, nor will they during their period pay any compliments.

(iii) **Honours and Salutes.**—The following honours and salutes will be paid by guards:

Between reveille and retreat (*a*) the guard will turn out and present arms, and the bugler will sound the salute to a general officer in uniform passing in front of the guard. If he passes behind, the bugler will not sound nor will the guard present arms.

(*b*) To the battalion commander, when in uniform, the guard will turn out and present arms once by day.

(*c*) To all armed complete units—*i.e.*, a cavalry regiment, a battalion of infantry, a battery of artillery, a cadet battalion passing the guard. By day the guard will present arms; between retreat and reveille it will stand with sloped arms.

The guard will not present arms by day to unarmed parties, and will not turn out between retreat and reveille to unarmed parties.

(*d*) The guard will turn out both by day and night when visited by the captain of the day or the subaltern of the day. The guard will not present arms unless the captain of the day is a major in rank, and will not do so to him after retreat.

(*e*) Guards will turn out at the commencement of the call for reveille, retreat, and tattoo being sounded. The commander will carefully inspect them and then dismiss them.

(iv) **Relieving or Posting a Guard.** — (*a*) When the ground admits, a new guard will advance in line towards the front of the old guard, and will be drawn up when possible

fifteen paces in front, or, when not possible, six paces from the left of the old guard.

(*b*) As soon as this is completed, the old guard will present arms, and the new guard will return the salute. Commanders of guards will present arms at the same time as the men.

(*c*) Both guards will in like successive manner slope arms, order arms, and stand at ease.

(*d*) The guard will then be told off, and the first relief sent out. When the first relief of a new guard is sent out, a corporal belonging to the old guard will accompany it, to bring in the relieved sentries. If the relief moves in line, he will be on the left flank; if in file (or as in file) he will be at the head of the front rank of files (or rank). As soon as all the sentries are relieved, the two corporals will change places, and the corporal of the old guard will assume command. While the relief is marching round, the commander will take over the property in charge of the guard according to the list in the old guard report.

(*e*) When the reliefs have returned, and all the cadets of the old guard have fallen in, both guards will be called to attention and ordered to slope arms.

(*f*) The old guard will then move off in fours or file, the new guard presenting arms.

(*g*) When the old guard is clear of the ground, the new guard will slope arms, and, if not already there, will move on to the same alignment occupied by the old guard. Arms will then be ordered, and the commander of the guard will read and explain the orders of the guard to his men; these orders will also be read and explained to the cadets forming the first relief when they come off sentry. The men of the guard will then be dismissed to the guard tent.

5. Guards turning out at Night—Visiting Rounds.—The following form will be observed when a guard is visited by

the captain of the day or subaltern of the day, on visiting rounds:

(i) Where the sentry is not directed to challenge, visiting rounds will, on approaching his post, inform the *sentry* as to their identity. The sentry will then call: *Guard—turn out.* The guard will fall in with bayonets fixed and arms sloped, and the commander will call out: *Advance, visiting rounds; All's well.* He will remain at the slope.

(ii) If there is a countersign to be given, a corporal or sergeant with a flank file of the guard will double out, and, when about ten paces from the rounds, will order the file to halt, bring them to 'On Guard', and will then repeat the challenge: *Who comes there?* The reply will again be: *Visiting rounds.* The non-commissioned officer calling, *Stand, visiting rounds. Advance one, and give the countersign.* Rounds will then in a low voice give the countersign, which the non-commissioned officer alone will carry in double time for verification to the commander of the guard. If correct, the commander of the guard will call out: *Advance, visiting rounds; all's well.* The file will then double back to the guard, and rounds will advance to the guard.

Section 12.—Pickets in Camps and Billets.

1. A picket from each battalion is always detailed for duty in camp and barracks in the case of troops. Whether pickets are detailed or not in cadet camps or billets is a matter for the camp commandant to decide. If possible, the time of cadets should not be occupied in this work.

2. The principal duties of the picket in camp or barracks are to find sentries over the canteen when it is open and sentries on posts which do not require armed sentries. The picket is always on duty, and is useful to reinforce the guard in case of emergency or to send out into the streets

if there is a disturbance going on in which soldiers may be engaged. In stations abroad it patrols the lines during the night on the lookout for thieves or other suspicious characters.

3. In cadet camps, if a picket is detailed, its duty would be to patrol the lines and prevent any lights or talking in the tents after lights out has sounded. It would fall in at once and assist the guard in the event of any general disturbance in the camp. The picket mounts with the guard and parades for inspection at last post.

* A picket in camp or barracks must not be confused with a picket forming part of an outpost line, the duties of which form an important part of the field training of soldiers by day and night (see the *Drill and Field Training* Manual of this series).

PART II

QUARTERS

CHAPTER IV

BILLETS, CAMPS, AND BIVOUACS

Section 13.—General Information.

1. QUARTERS take the form of billets, close billets, bivouacs, and camps. Camps admit of concentration, and are more healthy than bivouacs, but will only be used on service by troops engaged in field operations under exceptional circumstances. When not in proximity to the enemy, the health and comfort of the troops are the first considerations. Camps may still be used in uncivilized or sparsely-inhabited theatres of war, and when they cannot be dispensed with owing to climatic and other reasons. Camps will also be employed generally throughout the British Empire for the peace training of soldiers.

2. Billets are the usual form of quarters in civilized countries when not in immediate proximity to the enemy. They allow of proper rest and give shelter from the weather, but usually cause dispersion of the troops. This disadvantage may be overcome partially by resorting to *close billets*, when as many men as possible sleep in houses, the remainder bivouacking. Billets give concentration and readiness, but are trying to the health of men and horses, and should only be resorted to when tactical considerations make it imperative to do so.

3. Tactical Considerations.—*In the presence of an enemy, tactical considerations—e.g., favourable ground for deployment in the event of attack, concealment, facilities for protection, and economy in outposts, are of the first importance.* Under these circumstances the time which it will take to get the troops under arms and in position to meet the enemy, determines the form of quarters to be adopted. Thus, it will often be possible to billet the main body of an army, its covering force being placed partly in close billets and partly in bivouac.

4. If a force is halted for a single night only, dismounted troops should not be quartered at a greater distance than from one to two miles from their line of march next day. Dismounted units should be nearest the water-supply. Staffs and hospitals have the first claim on buildings. Officers must be close to their men.

5. General Arrangements on the Arrival of Troops.—(i) Before the troops are dismissed, all necessary defensive precautions must be taken, guards mounted, police posts established, and water, fuel, and forage parties detailed. The arrangements of the brigade area, the boundaries of the unit's area, and other matters of a similar nature will also be explained to the men.

(ii) Units, on their arrival, should be halted on their alarm posts. Everyone must be made to understand clearly what he has to do in case of alarm, and should know the names of all prominent features of ground near the area, and where the roads in the immediate neighbourhood lead to. Names should be invented for such features if none exist.

(iii) No troops, other than orderlies and parties for water wood, forage, etc., under proper control, are to quit their areas until leave has been given by the commander of the brigade area.

(iv) Each commander of a unit will, without delay, send

an orderly who knows the position of the unit's headquarters to report himself at the brigade office.

(v) If a state of *constant readiness* is ordered, troops will remain accoutred and will sleep with their arms handy, and it may even be necessary that horses should be kept always saddled and harnessed. In billets, lights must in this case be kept burning in houses, stables, and streets; and doors must be kept open.

6. Discipline.—(i) The daily duties mount as a rule immediately a new halting-place is reached. When a force remains halted for some time, and in standing camps, the hour for duties to mount will be notified in orders. In each regiment, battalion, or similar unit, an officer of the day will be detailed. In each company an orderly non-commissioned officer will be appointed.

(ii) Regimental officers of the day, and orderly non-commissioned officers are responsible that orders for the preservation of good order, the sanitation, and the internal defence of the district are observed.

(iii) **Inlying Pickets.**—Inlying pickets are mounted under the orders of the commander of the brigade area, when required for internal security, or they may be ordered by the commander, who appoints the commander of the outposts to act as a reserve to the outposts. In the latter case the picket stands to arms one hour before sunrise. Should the inlying picket be required to leave an area, its commander should at once notify the fact to the field officer of the day, with a view to a fresh inlying picket being mounted.

(iv) **Alarm.**—The alarm will be sounded only by order of the commander of a brigade area or of superior military authority, unless an actual attack is impending when it may be sounded on the responsibility of any officer or of the commander of a guard. On the alarm sounding, troops fully armed and equipped fall in by companies on the

alarm post of their unit, draught animals are to be at once harnessed in and pack animals saddled up, and an officer from each unit is to be sent for orders to the brigade office.

Section 14.—Billets.

1. General Arrangements.—The allotment of billeting areas to armies, divisions, brigades, and smaller units are made by the staff, arrangements being carried out by the quartermaster-general's staff, assisted by the commanders of billeting areas. Representatives of units will proceed with billeting parties to the localities apportioned to them, so far as tactical considerations admit, and take over their areas, when they will in turn send back to meet and guide their units to their billets.

2. Regimental Billeting Party.—A regimental billeting party should, if possible, consist of an officer or non-commissioned officer, and one rank and file per company, etc., for each unit concerned. Before starting for his allotted area, each officer or non-commissioned officer should receive a statement showing the number of officers, men, and horses for whom accommodation and food, if this is to be demanded, is required, and, if possible, the topography of the locality should be explained.

3. On arrival in the locality to be occupied, the officer or non-commissioned officer in charge of the party will proceed direct to the mayor, chief officer of police, or other official holding an equivalent position, to whom the billeting demand will be handed, together with any instructions to be observed by the inhabitants. The mayor or other official will at the same time be notified of the hour at which the troops may be expected, and will be requested to supply information as to the existence of any infectious disease, to designate the house or locality affected, and

to notify any special precautions to be taken in respect of water-supply, sanitation, fire, etc.

4. If time permits, a billeting order will be prepared by the local authority for presentation by the billeting party to each inhabitant on whom men and horses are to be quartered. This order will show the number of men and horses to be received, and whether food and forage is or is not to be supplied.

5. On receipt of the billeting orders, the officer or non-commissioned officer in charge of the billeting party will issue them in proper proportion to the representative of each company, who will be given instructions regarding the posting of warnings outside infected buildings, special arrangements for watering, etc., and the place to meet the officer or non-commissioned officer when the billets have been inspected. The men of the party will then proceed to the houses and stables allotted to their respective formations, will inspect and mark the billets, and will hand the billeting orders to occupiers. They will mark clearly with chalk on the door the names of officers, the number of men, and of horses the building is to hold, and the command—*e.g.*, company—to which it is allotted, official abbreviations being used. The marks must be removed before marching off

6. In the meantime the officer (or non-commissioned officer) will select and mark the position of the regimental headquarters, guard-room, alarm-post, sick inspection room, gun and transport parks, etc., and will ascertain the most suitable lines for communicating with neighbouring units, and the best roads into and out of the billeting area. This completed, he will if possible prepare for the information of the regimental commander a sketch showing the allotment of billets to the unit, and giving details regarding roads and communications.

7. On reassembling his men, he will notify them of the

positions of the headquarters, guard, etc., and a proportion will be despatched to convey this information to companies, and to guide them to their billets. In allotting billets, regard will be had both to the comfort of the men and the interests of the inhabitants. Both sides of a street should be allotted to the same unit to prevent confusion in case of alarm. Roads and communications must never be blocked. Staff offices should be on main communications and easily found. Billets may have to be readjusted after the troops have settled into them.

8. When time is not available for the above procedure, the troops will be halted outside their billeting areas. Meanwhile a party from each brigade area will proceed to the mayor or other official, to whom a billeting demand will be presented, and whose co-operation in the allotment of billets will be requested. The local authority will then take steps to notify to the inhabitants that troops will be billeted on them, and will promulgate any military orders to be observed. At the same time the billeting party will roughly allot the accommodation, areas being assigned to the larger units, and these in their turn allotting certain streets or groups of houses to their units.

9. General Rules in Billets.—(i) **Officers' Rounds.**—Officers will visit the billets of their men and their horses' stables at irregular intervals, at least once by day and once by night.

(ii) **Control of Inhabitants.**—If necessary, the inhabitants should be disarmed and forbidden to leave their houses after a certain hour; the streets should be patrolled to see that this order is obeyed. It may be necessary to take hostages for their good behaviour. Inhabitants who have leave to be out after dark should carry lights.

(iii) From the moment the advanced billeting parties enter a village or farm, precautions must be taken to prevent the inhabitants conveying information to the enemy. The local telephone system must be at once controlled.

(iv) All ranks should be warned against talking on military matters in the presence of inhabitants, against leaving letters or papers about, and of the importance of taking every possible precaution against any leakage of information. Military tribunals should be established to deal with any infractions by the inhabitants of the orders issued concerning them, and with any offences committed against the troops.

(v) **Liquor, Arms, Fire.**—All houses where liquor is obtainable must be placed under control. In every house occupied by the troops, at least one man must be specially detailed to guard the arms. Arms are not to be piled or left outside. As a precaution against fire, and also to prevent signalling to the enemy by means of lights, directions should be issued controlling the use of fires and lights, both by the troops and by the inhabitants. It may sometimes be necessary to establish special fire pickets.

(vi) **Defence.**—When the enemy is within striking distance, the villages in the front line should be prepared for defence against surprise, and a portion of the troops in them kept in a state of constant readiness, so that the defences may be rapidly occupied. As troops in billets are usually dispersed over a wide area, an *alarm signal* should be arranged for use in the event of the troops being required to turn out suddenly.

10. Close Billets.—Close billets are adopted when a greater state of readiness is required than is possible in ordinary billets. For this reason, tactical considerations invariably have precedence over considerations of comfort in close billets, and arms and units should never be mixed. In allotting close billets, every form of shelter should be fully utilized. It should be remembered that a bad billet is preferable to the best bivouac. Close billets will, normally, be used for short periods only, and it is not, therefore, necessary to consider the interests of the inhabitants to the same

extent as in ordinary billets. Where close billets have to be occupied for any length of time, as in the case of sieges, it is advisable to remove the inhabitants, and accommodate them outside the immediate zone of operations. In other respects the instructions for billets apply to close billets.

Section 15.—Camps and Bivouacs.

1. Site.—The site for a camp or bivouac should be dry, and on grass if possible. Steep slopes must be avoided, but gentle slopes facilitate drainage. Large woods with undergrowth, low meadows, the bottoms of narrow valleys, and newly-turned soil, are apt to be unhealthy. Clay is usually damp. Ravines and watercourses are dangerous sites, as a sudden fall of rain may convert them into large streams. Sites of old camping-grounds should, if possible, be avoided.

2. A good water-supply is essential, but considerations of safety may necessitate a camp, or bivouac, being placed at some distance from it. Other points to be considered are, the facilities which a site offers for obtaining shelter, fuel, forage and straw

3. Arrangements at the End of a March.—(i) A staff officer, usually accompanied by some mounted police, will be sent forward to select, in conjunction with an engineer and a medical officer, and with due regard to tactical considerations, water-supply (Sec. 18), etc., the ground where the force is to pass the night. He will make all necessary arrangements for the reception of the troops on their arrival.

(ii) When the column arrives within two or three miles of its destination, staff officers of brigades, etc., accompanied by representatives of their units, will ride ahead, receive instructions concerning arrangements for the night, lead their units on arrival direct to the ground allotted to them, and explain the arrangements to commanders of units.

(iii) When ground is allotted, each commander must be informed of any localities or depots outside his own area on which he may draw for water, fuel, forage, straw, and other supplies. Each commander should be informed, also, which roads he is at liberty to use, and what special defensive, police, or sanitary measures he is to take.

4. Camp Organization and Routine.—Information under these heads, applicable to camps for a battalion or smaller units, will be found in Chapter VI. of this book and in the Appendix.

5. Bivouacs.—(i) By day infantry pile or ground arms on the alarm posts, articles of equipment being laid by the arms. By night men will invariably rest with their arms and equipment by them, and may, if necessary, sleep fully equipped.

(ii) **Bivouac Shelters.**—When no other materials than earth and brushwood are available, a comfortable bivouac for twelve men can be formed, in dry weather, by digging a shallow circle in the earth, with a diameter of 18 feet or thereabouts, and piling up the earth displaced so as to form a wall 2 feet or 3 feet high all round the circle excavated. The men lie down like the spokes of a wheel in this walled hollow, with their feet towards the centre. Branches of trees, or brushwood firmly stuck upright into the earthen wall, improve the shelter. Other types of bivouac shelters are shown in Figs. 13, 14, and 15.

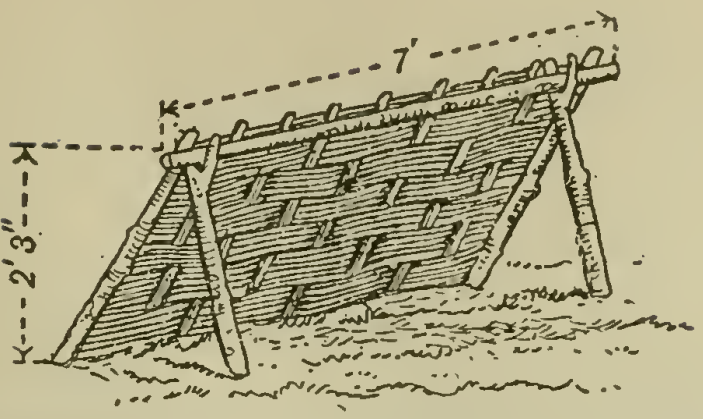


Fig. 13.—Two forked sticks are driven into the ground, with a pole resting on them. Branches are then laid resting on the pole, thick end uppermost, at an angle of about 45 degrees, and the screen made good with smaller branches, ferns, etc. A hurdle may be supported and treated in a similar way

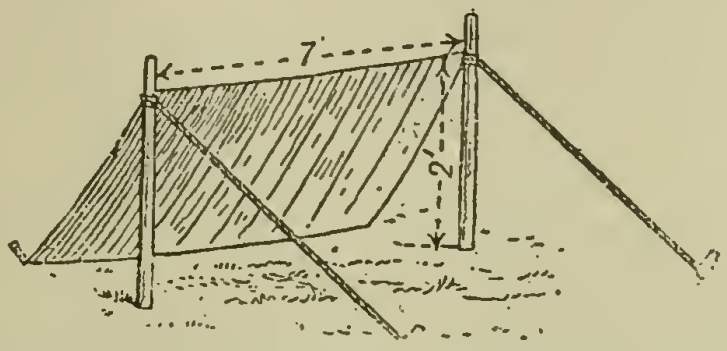


Fig. 14.—A waterproof sheet, blanket, or piece of canvas, secured by poles and string.

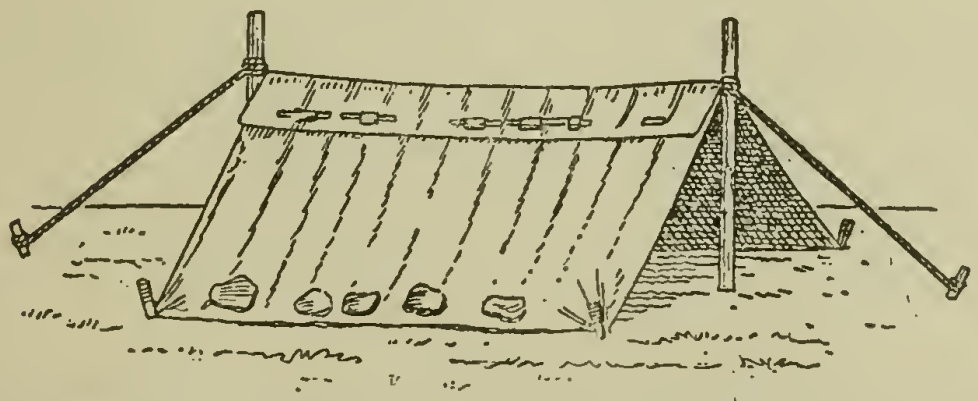


Fig. 15.—A *tent d'abri*, for four men, formed with two blankets or waterproof sheets laced together at the ridge, the remaining two blankets being available for cover inside.

CHAPTER V

SANITATION

Section 16.—General Remarks.

1. **Definition of Sanitation.**—The true definition of sanitation means the *preservation of health*, or, in other words, the *prevention of disease*. This chapter, therefore, is not confined to those subjects with which the word sanitation is usually associated—namely, scavenging, conservancy, and the removal of filth and refuse—but also deals with general rules for the preservation of health.

2. **The Need of Sanitation.**—The accommodation of troops in camps and bivouacs, and in a less degree in billets, is a reversion to primitive conditions of life. Under all these circumstances, to a greater or less extent, men are unavoidably crowded together. Experience has shown that disease increases among men when they are crowded together. Whether the infection is spread through the air, by personal contact, by water, by food, by insects, or from latrines, the more people there are in a particular area—for example, in a barrack-room, billet, or tent—the larger will be the number that come within the range of possible infection, and the more serious as a rule will be the disease.

3. It is well known that troops spending a short time only in any camp are almost always healthy; but the longer a camp or bivouac is occupied, the more disease occurs in it. When it is recollected that diseases are spread from person to person by defective conservancy, personal contact, and infected food and water, it is evident that the conditions of life in quarters are almost ideal for encouraging their dis-

semination. To prevent this, the greatest care and attention must be paid to sanitation. *Every officer is responsible that all orders affecting the health of an army are rigidly carried out by the troops under his command. Neglect of sanitary precautions inevitably results in great loss of life and efficiency.*

4. Study of Sanitation.—*The study of sanitation and the preservation of health is incumbent on every officer and soldier.* The importance of sanitary measures, whereby health is preserved, cannot be over-estimated. Successful prevention of disease demands the co-operation of every individual, whether officer or man, and forms an essential part of every scheme designed with that object. The sanitary organization of the army is based on the principle that the commander of every unit and formation is responsible for the sanitary condition of all quarters or localities occupied by his command, and for taking all measures necessary for the preservation of the health of those under him. He is also responsible for seeing that each officer and soldier observes all sanitary orders, and for the good order and cleanliness of that portion of a quarter or locality under his charge, irrespective of the period for which the latter may be occupied.

5. It is desirable to emphasize the fact that the sanitary control of quarters depends for success on *attention to details and the exercise of care on the part of individuals.* These are required not only of the men, but also of the officer; for there can be little doubt that the men take their cue from the officer. The essential principle of sanitation in quarters, as elsewhere, is *cleanliness.* This state of cleanliness must not only be maintained while the quarters are occupied, but on evacuation the area must be left sweet and tidy, so that those coming after may not suffer from a heritage of filth. *The absence of flies is the surest index of cleanliness, for if there is no filth to feed upon flies will not be present.*

6. Training of Cadets.—(i) It is clear from the foregoing paragraphs that knowledge of the laws of hygiene and sanitation, and practice in applying them to various conditions, is an important part of the training of both officers and men. These subjects therefore should form part of the training of cadet officers and cadets, and the conditions of life in camps and billets afford a good opportunity for carrying out practical training in them. This instruction should not be confined to observing the rules of hygiene and sanitation, but should include lectures on these subjects, given, if possible, by the medical officer attached to the corps. In all well-trained corps sanitation and hygiene will, of course, form part of the annual course of instruction, and not be reserved as special subjects for training in camps and billets.

(ii) **Special Classes and Examination.**—Owing to the vital importance of these subjects, special classes of instruction in hygiene and sanitation should be arranged for cadets who are attending camp for the first time, and their practical knowledge should be tested by oral or written examinations *before* they are allowed to attend camp.

Section 17.—Clothing and Equipment.

1. Clothing.—Clothing should be adapted to the temperature, and when instruction involves physical exertion the garments worn should be light, and not too tight in any part. Whenever possible, clothing which has become saturated with perspiration after hard exercise or in hot weather, or which has become wet from rain, should be changed. This is especially important with regard to socks and underclothing. Clothing worn by day should not be worn by night.

2. Cleaning and Care of Clothes.—Clothes should be brushed regularly to remove dust, mud, and dirt. Both clothes and boots should be cleaned outside tents and outside

rooms in billets when possible. Kits may with advantage be aired and spread out in the sun periodically with bedding when possible. Underclothing should be changed at least once a week, and more frequently in hot weather. If damp from perspiration, it should be hung up to air or dried before being folded up. Clothes should never be folded up and put away if they are damp or dirty. Directions for repairing and washing garments, removing stains, and for darning socks, will be found in the Appendix.

3. Drying Clothes.—(i) In the absence of sun or wind, clothes may be dried in camp by the following methods:

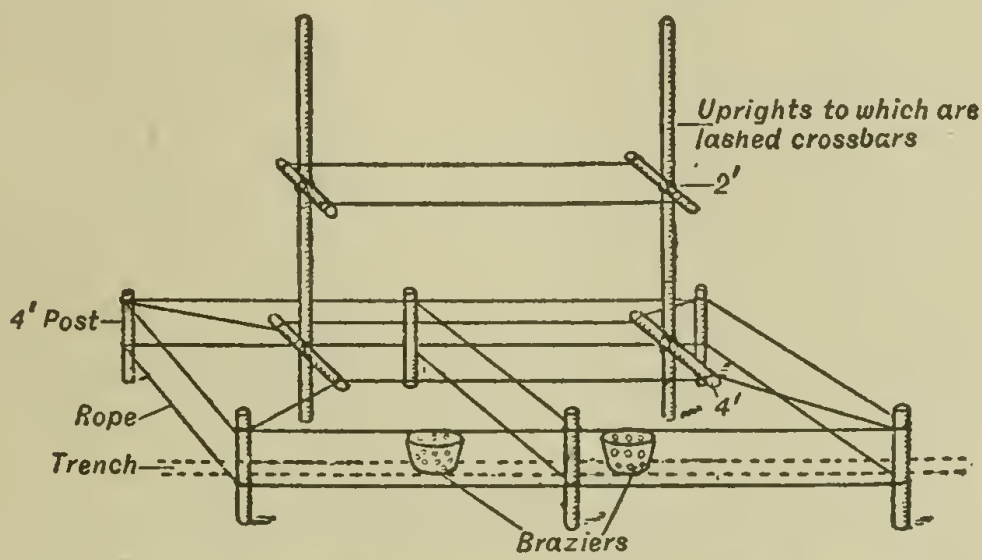


Fig. 16.—Frame for drying Clothes in Camp.

Pitch as large a tent as is available; dig one or more holes, some 2 feet deep and 3 feet in diameter, within the tent, sufficiently far from the poles and canvas to minimize the risk of fire. Line the holes with fairly large stones, and carry them up so as to make parapets round the hole, to a convenient height. If a fire be lighted in the hole and carefully tended, the stones will soon radiate a good deal of heat. The wet clothing should be hung round the hole as well as the appliances on the spot will allow, and the tent shut up.

In place of a tent, a rough shelter can be built, or use made of some outhouse on a farm.

(ii) An alternative plan is to rig up a simple framework, as shown in Fig. 16, by means of ropes, cords, or wire. This should be erected either within a large tent or under some shelter, and one or more braziers, improvised from buckets or tins, full of glowing coke or charcoal, placed at suitable intervals near to the wet clothing.

4. Blankets and Bedding.—Blankets and bedding very quickly become dirty under the conditions of life in camps and billets. These articles retain infection for considerable periods. Their regular and efficient washing is therefore very important. A rule should be made that blankets and bedding brought to camp by cadets should be clean, and these articles should be exposed to the sun and air whenever possible, both in camps and billets, for these natural forces are good disinfectants. A convenient time for airing bedding is when the tents are ventilated every morning (para. 5). In cases of infectious disease, articles of bedding and clothing which are loaned by Government to cadet corps should not be returned to store until disinfected; but, as it is sometimes not possible until a cadet has been in the sick-bay for a few days to tell whether the disease is an infectious one, the clothing of all cadets admitted to the sick-bay should be kept separate until it is known that they do not require disinfection.

5, Ventilation in Tents.—In the bell tent ventilation is provided by three small openings at the top. These, however, are not sufficient to change the air in the tent sufficiently often to keep it pure. It must be remembered that a bell tent with its full complement of fifteen men allows only 12 square feet and 32 cubic feet for each man, against 60 square feet and 600 cubic feet of space which he is allowed in barracks. Thus, tents must be kept as well ventilated as possible. Tent-flies are to be looped up the

first thing every morning—in wet weather on the leeward side only.

6. Striking Tents.—In a standing camp tents will be struck periodically, and the ground underneath well swept and left exposed for some hours at least, the tents being eventually replaced on their former sites. Tents should never be pitched for occupation in the intervals of ground between these sites.

7. Food in Tents.—Whenever it can be avoided, food should not be eaten in the tents, for fragments always collect on the ground, where they decompose and attract flies.

8. Cleansing Water-Bottles.—It is the duty of officers to exercise a supervision over the cleanliness of water-bottles. Washing out with boiling or very hot water is the most rational method of cleansing the bottles, but on field service this may be impracticable. For similar reasons, the use of permanganate of potash or other chemical is not always a practical procedure. The next best thing to do is to fill the bottles with very hot tea at least once a week, and leave this hot liquid in the bottle for at least an hour; but to be of any use the tea must be poured into the bottles in as near a condition of boiling as possible.

9. The practice of attempting to scour out the inside of a bottle by placing stones, sand, or gravel in it, and then shaking, followed by washing out with water, should be discouraged; the sand or stones are usually dirty, and the last state of the water-bottle will be worst than the first. In circumstances where there is an ample supply of clean water, the ordinary washing out with three or four fillings of this water is a reliable procedure, but this and similar methods must be carried out under intelligent supervision. Water should never be kept in the bottles when the water-bottle is not in daily use.

Section 18.—Water, Food, and Milk.

1. Daily Allowance of Water.—The following information will guide officers in estimating the minimum quantity of drinking water which will be required daily for their commands. A man, to make up the loss of fluid from the body, requires from 3½ to 5 pints of water daily, of which about one-third is contained in solid food. Half a gallon, therefore, will be required for drinking, and the same amount for cooking—that is to say, a gallon a head should be the daily allowance for men. In tropical countries this amount will not be sufficient, and may be increased.

2. Sources and Protection of Water.—Water lends itself readily as a medium for carrying various dangerous diseases. The water-supply of camps, therefore, must be the subject of the strictest attention and care. Pure water is usually procurable locally in Great Britain, but occasionally it may have to be carried from a distance. It may be drawn from wells, springs, streams, rivers, lakes, ponds, or rain-water tanks. In all these cases it may be polluted at its source, during carriage, during temporary storage, and during its distribution in cooking-pots, water-bottles, jugs, etc.

3. Water-Supply.—The following general rules are laid down for the guidance of officers in regard to water-supply:

(i) From whatever source the water is drawn, it must be protected from contamination.

(ii) Drinking must not be allowed from the taps, rims, or spouts, of any drinking-water receptacle.

(iii) **Marking Water-Supply with Coloured Flags and Notice Boards.** Where more than one source of supply is to be used, the best should be set apart for drinking and cooking water, and marked with *white* flags. Watering-places for animals must be marked with *blue* flags, and washing and bathing places with *red* flags. Alternatively,

the object for which the water is to be used may be denoted clearly on notice boards. *Washing must never be allowed at springs or wells used for drinking purposes.*

4. Stand-Pipes from which water can be drawn from a pure source provide the best water-supply.

5. Rainwater.—Rainwater is seldom used in the army for domestic purposes. The uncertainty of the rainfall and the difficulty of collecting it free from impurities, except from specially-prepared surfaces, makes it quite unsuitable unless other sources are not available.

6. Wells.—Artesian or deep wells are generally protected, and are probably safe sources. Wells are generally divided into two classes, shallow and deep, a *shallow well* being one which taps the subsoil or ground water above the highest impermeable stratum; a *deep well*, one sunk through an impervious stratum to reach water held up by a deeper impervious layer.

7. Contamination may reach wells and springs by being washed or dropped into them from the surface, or it may reach them through the subsoil; hence any source of contamination on the area drained by them is a possible danger. As in other cases, it is human contamination that is to be feared, and the nearer this is the greater the danger.

8. The actual distance or area through which contaminating material can travel or spread in the subsoil water varies within wide limits with the nature of the soil, and, in the case of wells, with the amount of water drawn from them; but it is never safe to regard this area, in the case of wells, as less than a circle 25 yards in diameter. In very porous or fissured ground it may be more. The soil acts as a filter, and the number of bacteria found in it diminishes the further one gets from the surface, very few being found at a depth of 5 feet; and the further water travels through the soil, the more complete is the filtration. It is obvious, then, that the greater the distance from any source of con-

tamination, the less the danger; and that deep wells, the water of which must have come from some distance, are less likely to be contaminated than shallow wells.

9. In Europe, among the commonest sources of contamination of wells are cesspits and midden closets, which are holes sunk in the ground to receive sewage. Besides these, any foul matter on the ground round a well or spring may get into the water by soakage through the soil. All wells and springs, unless properly protected and closed, are liable to pollution by foul surface water flowing directly into them. Another very common danger is the use of any casual vessel for drawing water. Such vessels, if coming from dwellings in which there are cases of cholera, enteric fever, dysentery, or diarrhœa, can easily infect the water with the germs of these diseases.

10. All wells should be protected by a fence enclosing an area not less than 25 yards in diameter. In the case of springs on a slope, protection need be only at the sides and above. To protect a well from contamination—(*a*) the mouth should be one or two feet above the level of the ground, and the ground round the mouth should be sloped outwards; (*b*) if the well is a small one, the mouth should be closed with a tightly-fitting cover with a manhole in it; and (*c*) a pump should be provided at the side, and not directly over the well, the water being pumped to a tank outside the fenced area, and drawn off by taps.

11. Surface Water.—The suitability of surface water can best be judged by the amount and proximity of any possible sources of human contamination on the land which drains towards them. Small collections of water, such as ponds and streams *in inhabited places*, are never fit for drinking purposes without purification, as any contamination which they contain is likely to be of recent origin, and will be but little diluted. Lakes of large size generally provide a safe water, for any contamination which they

receive is much diluted. Contamination by the troops themselves must be particularly guarded against, special care being taken that the drainage of latrines, urinals, washing-places, trenches in which night-soil or refuse are buried, and of animal lines, does not flow into the lake.

12. If **Running Water** is not available, a rough barbed-wire fence or some other form of fencing should be placed round the water-supply, to keep out animals, which should in this case be watered by bucket or nosebag.

13. When **Ponds, Tanks, or Lakes,** are used as sources of water-supply, the place selected for drawing drinking and cooking water should be where it is least likely to be contaminated, and preferably where there is a good depth of water, so that mud will not be stirred up. Another spot will be set apart for watering animals. Bathing and washing of any description in the lake or pond must be prevented. Water for these purposes must be taken away in empty biscuit tins or other receptacles to selected places, from which the drainage will not flow back to the source.

14. Rivers vary enormously in the purity of their water. This can best be judged of by the character of the country through which they flow, and by their size. It may safely be said that no river water can be considered safe for at least five or six miles below any town the drainage of which enters it. When it is necessary to use such water it should be purified in some way

15. Streams.—If water is obtained from a stream, horses will be watered below the place where troops obtain their drinking water, but above bathing and washing places. Patrolling by mounted men will often be necessary for some distance above the spot where the drinking water is drawn. The spot selected for drawing water for drinking and cooking purposes should be well above the camp. It should be at a place where the current is good and the depth considerable, and the same precautions should be

adopted for marking and safeguarding it as have already been described A place lower down stream will be marked off for watering animals, and another still farther down for ablution and washing of clothes. If other troops are using the river lower down, special arrangements for washing and watering animals away from the river, similar to those described for ponds and lakes, are often necessary.

16. Whatever the source of water-supply, if many animals have to be watered and the frontage is small, hours for watering and the route to and from watering-places will be laid down for each unit. Three to five minutes may be taken as the average time for watering an animal.

17. The water from small streams must be collected as near their source as possible. If the valley forming the collecting area is a small one, the part above the water-supply should be put out of bounds, and animals kept from grazing on it. In all cases the stream should be examined as high up as possible to discover any possible sources of pollution, and any carcasses or filth should be cleared from the collecting area and stream.

18. If the stream is very small, a dam should be made, and the water led over a weir into vessels or pumped out from above the dam. When dippers are used there is much danger of contaminating the water. The dipper is usually left on the muddy soil by the side of the dam, and may thus pollute the water with dirt from men and animals.

19. When drinking water is obtained from a running stream, no washing should be allowed above the place where the drinking water is drawn.

20. Springs.—Springs frequently issue from the side of a hill, and the flow of water is not very rapid. The water usually comes from a number of crevices, and the ground for some yards round should be fenced off, and a basin cut in the face of the hill to collect the water, which may then be led into vessels by means of an extemporized spout.

21. Springs should be protected in a similar way to wells. The water from a spring should be conducted directly into a closed tank, and drawn off by taps. Failing this or some similar improvised arrangement, a spout or spouts should be arranged so as to obtain the water from the spring. In no case should it be collected in open vessels or in hollows scooped out of the ground, for if this is done the water is certain to be fouled either by drainage from above or by persons, who come to draw water, washing in it or dipping infected vessels into it. If for want of time or for other reason springs and wells cannot be adequately protected, a special water party should be detailed to fill the vessels, all other persons being kept at a distance.

22. **Distribution of Water.**—Water may be contaminated not only at its source, but during distribution or storage. Water should never be distributed through camps in open channels. In quarters, water is distributed in carts, iron tanks, and barrels, in all of which dust and dirt are liable to accumulate. Water-carts, tanks, and barrels, must be frequently cleaned and periodically disinfected. To enable this to be done, they must have sufficiently large openings to allow of every part being reached, and these openings must have dust-proof covers.

23. Receptacles for storing Water.—Tanks or vessels in which drinking water is stored should be raised off the ground and provided with taps. In barracks, tanks used by troops will be periodically cleaned out.

24. Cleaning Receptacles.—All receptacles in which water is distributed or stored must be thoroughly cleansed at frequent intervals. The following directions for cleansing vessels in which drinking water is stored are taken from the *Field Service Pocket-Book*: Use mixture of 16 grains of permanganate of potash to 1 gallon of water, or, roughly, 1 teaspoonful to 3 gallons. If after rinsing the mixture comes out discoloured, it shows cleansing was necessary.

The process of rinsing should be repeated till the mixture comes out with pink colour not destroyed.

25. Both potassium permanganate and chlorinated lime, being relatively non-poisonous, are very useful for disinfecting tanks, water-carts, or other receptacles, when they have contained water which is suspected of being contaminated. Sufficient should be added to make a solution of 1 in 500 of permanganate or 1 in 1,000 of chlorinated lime; every part of the interior should be thoroughly wetted with the solution, and after an hour the water may be run to waste.

26. Purification of Water.—Different methods of purifying water and the description of various kinds of filters will be found in Chapter V. of the *Manual of Elementary Military Hygiene* (1912). If necessary, measures for the purification of water must be taken in camps and billets, under the advice and supervision of the medical officer or of a doctor attached to cadet corps. A simple and effective method of purifying water is to boil it. Care, however, must be taken to see that it is subsequently kept in clean receptacles, and protected from contamination by dust or in any other way while it is being stored or distributed for the purpose of drinking or cooking.

27. Inspection of Food (Sec. 38).—Both disease and poison may be conveyed into the system of human beings by food if it is not quite wholesome or fresh. The means of prevention are to insure that food has come from a reliable source, and to inspect it carefully for any signs of decomposition. Although cooking is a safeguard against those forms of food-poisoning in which bacteria are the cause, it is not a certain one, for the temperature in the middle of a joint while being cooked is not always high enough to kill the bacteria, besides which cooking will not destroy the poisons already formed in the meat, and the bacteria may even have got into it after cooking.

28. Tinned Foods. — Tinned food may be especially dangerous to health, and needs careful inspection. In examining tinned foods, it should always be noted if the tin is *bulged* or *blown;* this is the result of gases formed by putrefaction of the contents. The processes by which most tinned provisions are prepared involve one, or sometimes two, holes in the tin; if there are three holes in it, it is an indication that putrefaction has occurred, and a third perforation has been made to allow the gas to escape. The third hole is often near the rim, and can be felt under the label. A fresh-looking label does not prove that the contents are necessarily fresh. Tins are readily perforated by rust, especially if crushed and exposed to the action of sea-water. Such tins should always be looked upon with suspicion.

29. Contamination of Food.—Diseases such as enteric fever, dysentery, cholera, and diarrhœa, may be transmitted by means of food contaminated by water, flies, dust, or infected persons. Uncooked foods, generally speaking, are more dangerous than cooked. The preventive measures consist of the protection of food from any of these forms of contamination before, during, and after preparation. To give effect to these measures, the strictest supervision over food-supplies is necessary, not only over those supplied as part of the ration, but also those produced in bakeries, dairies, and mineral-water factories, those sold in canteens or refreshment tents, or supplied by contractors or hawkers.

30. Rules for preventing Contamination of Food.—The following rules for preventing the contamination of food should be observed in camps and billets:

(i) Food should not be stored, kept, or eaten, in tents or rooms in billets. If this for any reason is temporarily unavoidable, it should be placed in a covered jar, tin box, or other receptacle.

(ii) The hands and clothes of all persons who handle food or cooking utensils should be scrupulously clean.

(iii) All bread and meat stores should be clean, well ventilated, and inaccessible to flies.

(iv) Kitchens and their fittings, such as tables, shelves, as well as cooking utensils, should be kept clean and tidy.

(v) Flies, which carry minute portions of filth and germs on their feet, contaminating all they touch, should as far as possible be prevented from gaining access to kitchens. They breed only in filth, and *where there are many flies it is a certain sign that there is filth and dirt in the near neighbourhood.*

(vi) Cooks and their assistants must be personally clean, and wear clean, washable overclothing.

(vii) Anyone recently recovering from any infectious disease, more especially from enteric fever, should not be allowed to act as cooks, mess-orderlies, or in any capacity connected with the serving of food.

31. Milk.—Milk, if contaminated, is particularly dangerous to health, as it is an excellent culture medium for bacteria, and may convey various serious diseases. The commonest ways in which milk is contaminated are from contact with infected persons employed in dairies, from infected water used either for cleaning dairy utensils or for adulterating milk, and by flies. The preventive measures consist of insuring that milk comes from a reliable source, that it is stored in clean receptacles, and carefully protected from dust, flies, and as far as possible from any contact with persons handling it during storage and distribution. Milk may be sterilized and rendered safe by being boiled. Care, however, must be taken, as in the case of water purified by boiling, to see that the milk is not subsequently contaminated in any way.

Section 19.—Disposal of Excreta.

1. General Remarks.—The proper disposal of excreta is of vital importance to health, and presents fewer difficulties than might be expected. It has been pointed out that, as soon as a unit occupies the bivouac or camp site selected for it, it is the duty of the sanitary personnel to prepare latrines and urinals without delay in the area allotted for these places. If the construction of latrines is unavoidably delayed, selected places should be marked off for the reception of excreta, to which men should be directed to go. At the earliest opportunity all excrement so deposited must be buried or covered with earth by the sanitary personnel.

2. Latrines.—Latrines, as already stated, should be located to leeward of the bivouac or camp, and in such a position that no possible fouling of the water-supply can result. The assistance of the sanitary officer, or such other officer of the medical service as may be exercising sanitary supervision of the command, should be obtained when the exact position of these places is being selected. Latrines and urinals should be as far removed from the part occupied by the men as is compatible with convenience—under ordinary conditions this may be put at 100 yards. The latrines must be placed as far as possible away from the kitchens and other places where food is prepared or stored. They must never be placed in or near gullies which, when it rains, discharge into the water-supply, nor in any situation the drainage or filtration from which may possibly reach, and so pollute, the water-supply.

3. Accommodation.—The extent of latrine accommodation provided will vary according to whether the area is for temporary or permanent occupation. For ordinary camps it should be 5 per cent. These figures may be taken to represent either yards or actual seats, according to circum-

stances. The multiplication of latrines is undesirable, as one or two fairly large latrines are easier of control than several smaller ones, and the pollution of the soil is more localized.

4. Types of Latrines.—For temporary quarters the usual latrine is a trench with or without a seat. These trenches may be either long and deep or short and shallow. The latter are always preferable, but the former may be required if there is not enough ground for shallow trenches, as, for example, when the minimum camp space has to be occupied for several days, or when additional latrine accommodation is required in billets, and space is restricted.

5. Long and Deep Trenches.—(i) If the long and deep trench system be used, a trench 5 yards long, 3 feet deep, and 16 inches wide, is the necessary allowance for each hundred men. The greatest care should be taken to prevent the water-supply being fouled by these trenches, either directly by soakage, or indirectly by surface water, in wet weather, flowing from the trench or its immediate neighbourhood. With this system the contents of latrine trenches should be covered with 2 inches of dry earth daily. The use of kerosene-oil and lime will assist in keeping flies away.

(ii) **Disadvantages.**—The great disadvantage about latrines of this kind is the fact that the front edge of the trench soon gets wetted with urine, and the front of the latrine rapidly becomes a urine-sodden quagmire, the mud from which gets carried back into the lines or tents on the men's boots, which may give rise to the danger of infection.

6. Short and Shallow Trenches.—(i) This system whenever possible should be adopted in preference to the long and deep trench. It consists of a series of short parallel trenches, across which the user straddles, and readily directs both solid and liquid excreta clear into the cavity without soiling the sides. Each trench on the short and shallow system should be 3 feet long, 1 foot deep, and 1 foot wide,

and the interspace between these trenches not more than 3 feet—preferably 2½ feet, if the nature of the soil permits—so as to preclude the men using the trench otherwise than in the straddling attitude. The interspace of 2½ feet is ample when the soil is firm, and allows plenty of room for another trench to be dug in it. A 3-foot interspace gives more room between trenches, but entails a longer frontage and a correspondingly greater length of screen. In stiff clay the interspace cannot be used on the second day, as the urine, not being able to soak away, keeps the ground soft. It may generally be used a week later if necessary.

(ii) **Advantages.**—These short trenches are far cleaner than the long type, they entail less labour to dig, and are more efficiently filled up and renewed. If available, a seat in the form of a stout pole can be laid at right angles to the trenches, supported on forked uprights. A back-rest may be formed by a similar pole, but is often omitted.

(iii) **Number.**—It is usual to allow five short and shallow trenches for every hundred men ; but when the numbers of men are 500 or upwards, 3 per cent. of trenches suffice—that is, 500 men need no more than fifteen trenches. As a rule a trench lasts only one day. A trench can be made to last longer if the contents, which tend to get heaped up in the centre, are levelled off, and if the earth used for covering the excreta be finely broken up.

(iv) **Method of Construction.**—The method of laying out these short and shallow trenches will be gathered from Figs. 17 and 18. Supposing the number of men for whom latrine trenches are required is 200, and the probable length of occupation is seven days, for this small number we must allow 5 per cent., or ten trenches daily. The frontage in yards required daily may be taken to be six times the number of hundreds of men present—that is, 200 men will need 12 yards of latrine frontage. The depth for latrine area is two-thirds the number of days' stay. In this

case, the occupation being only seven days, the required depth will be two-thirds of seven, or 4 to 5 yards.

(v) Next, suppose *B* (Fig. 17) is the base line of the camp, measure off 20 yards at right angles to *B*, and drive in a peg at *C*. From *C* take the line *CD* parallel to the base of the camp, and 12 yards long. This line *CD* equals the line of the first row of trenches. From *C*, along *CD*, measure off 1 foot and 2½-foot spaces alternately, marking the spots with a spade till there are ten 1-foot spaces. From *C* measure 3 feet, *CE*. From *E*, and parallel to *CD*, mark

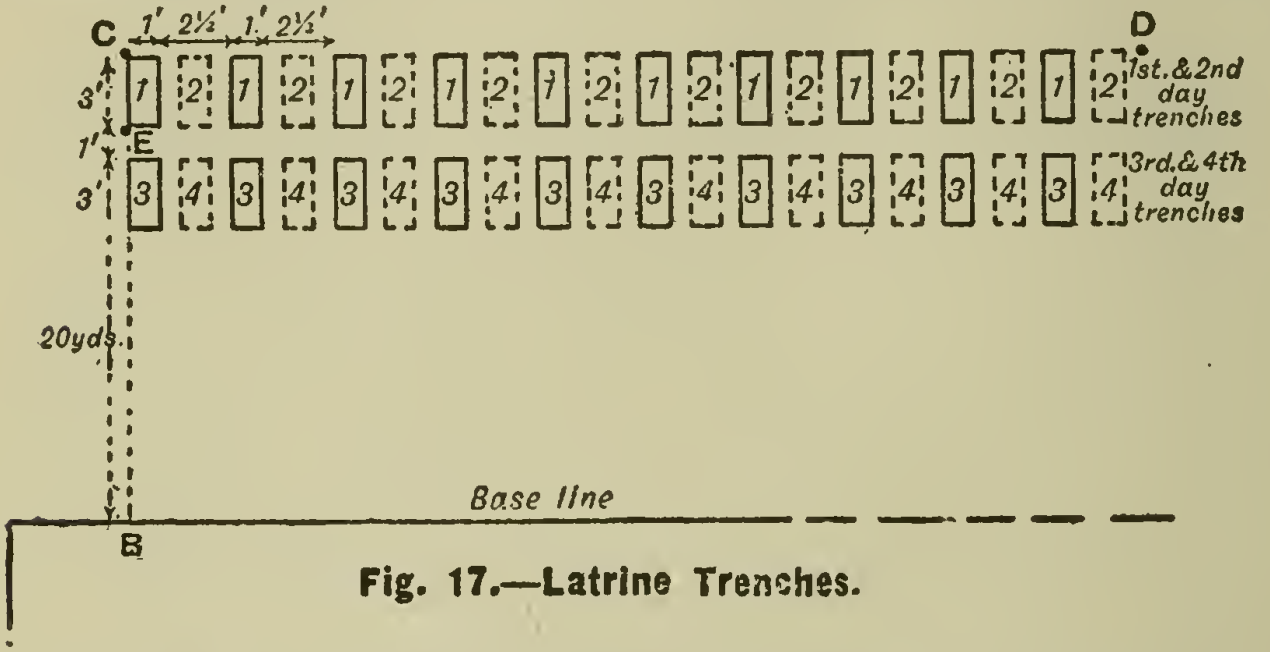


Fig. 17.—Latrine Trenches.

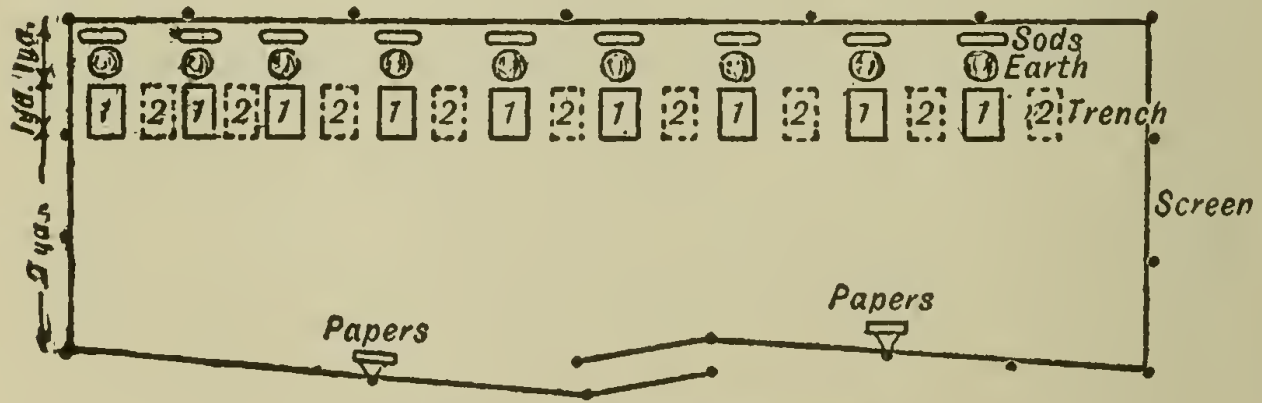


Fig. 18.—Latrine Trenches.

off alternate spaces as before, and join up. This outlines the first row of trenches. Next remove the upper sod of each trench, in one piece as far as possible, and put it about 3 feet behind the trench (Fig. 18). Excavate the trenches till they are 1 foot deep, keeping the sides vertical, and placing the excavated earth immediately behind the trenches, between it and the sod. This earth must be finely broken up.

7. Screens.—The latrines should, if possible, be surrounded with a canvas screen, the back being 3 feet behind, and the fore-part at least 6 feet in front, of the trenches, with an entrance in the centre of the front having a 6-foot overlap (Fig. 18). The length of screening necessary for 1,000 men on a 5 per cent. basis will be 130 yards; if twenty-five trenches are used, they will require 70 yards.

8. Daily Arrangement.—(i) On the second day fill in the trenches with the remaining excavated earth, replace the sods, tread and beat down firmly. Dig the second day's trenches in the interspaces of the first row. On the third day dig a row of trenches similar to and parallel with the first row, and 1 foot in front of them. Move the screening forward so as to surround them properly. Repeat the construction of trenches on the subsequent days in a precisely similar manner.

(ii) **Drainage.**—After the latrine has been prepared, examine the slope of the ground, and if necessary dig a shallow drain to divert surface water from the trenches, taking care that it does not flow on to the ground in front of the trenches which will have to be used later on. This precaution applies also to urinals.

9. Administration of Latrines.—The proper administration of the latrine system is a most important factor in the preservation of the health of men living in quarters. There is one rule for the successful working of these places, and that is that all excreta must be covered up as soon as

possible with earth, not only for mere purposes of deodorization, but to preclude the access to it of flies, which are one of the chief means of conveying the germs associated with this filth to men and their food. In bivouacs or camps, where the ordinary trench latrine only exists, a satisfactory solution is not an easy matter. In the first place, the available soil is inconveniently placed, the provision of a sufficiency of spades or scoops is not always practicable, and the surroundings of the place conduce to hurry on the part of the individual.

10. Inspection.—The remedy lies in educating the men to realize the necessity for covering up their own excreta with earth, and in placing a sanitary patrol, drawn from the unit as a whole, over the latrines, with orders to inspect them at short intervals, and see that a sufficient quantity of earth is being used. The condition of all latrines should be verified personally by the orderly officer of the day at least once during each twenty-four hours.

11. Deodorization.—For covering the deposited excreta with earth, some kind of implement, such as a spade, scoop, empty tin, or tin-lid, should when possible be provided near each trench. Kicking the earth in with the foot is certain to be a failure, and should be discouraged.

12. Precautions on Disuse.—As soon as the latrine trenches have been filled in to within 6 inches of the ground-level their use should be discontinued, earth thrown in, and the turf or sods replaced. On the abandonment of a camp or bivouac all latrine trenches must be filled in, and the site marked with the letter L, made with staves or other suitable means.

13. Removal System.—At some large camping-grounds contracts for the removal of soil are made, and the system known as the "removal system" is carried out. The Government supply buckets, and the contractor removes the soil and supplies dry earth, which must invariably be

used. No trenches are dug when the removal system is carried out.

14. Urinals.—(i) Urine may spread infection. Men are on no account to urinate elsewhere than in the latrine trenches, or in urinals or pits set apart for the purpose. For day use these urinals are best placed adjacent to the latrine trenches, and within the screen, if supplied. Given a reasonably absorbent soil the urine soon disappears; but if this is not the case care must be taken to make supplementary pits. In any case, the urine-sodden soil must be covered at least three times a day with clean dry earth to protect it from flies. In all bivouacs and camps where receptacles are not provided, pits or trenches must be dug for the purposes of urination.

(ii) For night use, when urine-tubs of some sort cannot be provided, or when the day urine-pits are some distance from the tents or sleeping-places, it may be necessary to dig shallow urine-pits near the cadets' lines into which they can micturate at night; but this practice should be resorted to as rarely as possible, and the pits must be carefully filled in at dawn. Urine-tubs can easily be extemporized from empty biscuit or oil tins, which may with advantage be partly filled with grass, sawdust, earth, or any other absorbent material. These tins should be mounted on heaps of earth or stones on boxes, or on rough wooden trestles, to reduce to a minimum all chance of splashing or spilling.

15. Camp Urinals.—The best type of camp urinal takes the form of one or two shallow trenches, at least 2 feet wide leading into a pit filled with large stones, the trenches being for urinating into, and the pit to take the excess which fails to soak into the soil. Roughly, two trenches, each 8 feet long, will suffice for a battalion of full strength. The trenches should have a fall of 1 inch to the foot. The catch-pit will vary in depth and size according to the soil and the

number of men using the trenches—one 3 feet deep and 8 feet in diameter in a moderately porous soil should suffice for 800 to 1,000 men. Fig. 19 shows an example of one of these urinals. The trenches will last about two days, and the pit some eight days. When foul, new trenches can be dug as radii from the pit, and the old ones filled in. If feasible, the pit should be screened off to prevent men

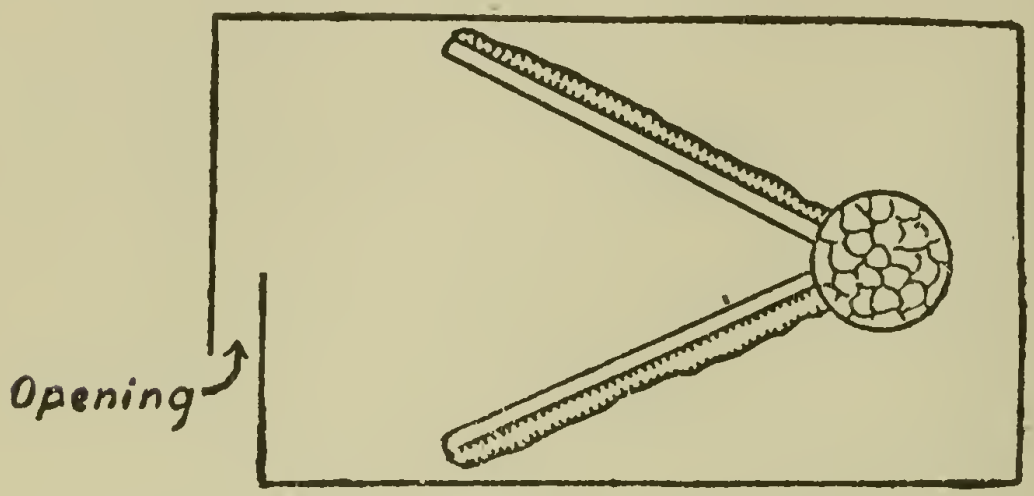


Fig. 19.—Plan of Camp Urinal.

actually micturating into it. The ground around a urinal should be burnt when another has to be dug or the quarters evacuated.

16. General Precautions.—Well-managed latrines and urinals in both camps and billets should be devoid of smell and free from flies, even in warm weather. *The presence of flies in these places is a sure sign that something is wrong.* All men engaged in the handling of urine-tubs, or in the care and cleaning of urinals, closets, or latrines, must remember that they are handling dangerous material capable of giving infection to either themselves or others, often both. To reduce these risks to the lowest point, men engaged on these duties should carefully wash their hands immediately on

completion of the work, and certainly before they handle food. *No men employed in cook-houses or as mess-orderlies should ever be allowed to have anything to do with the removal of urine-tubs, or with the care and cleansing of urinals or latrines.*

Section 20.—Kitchens.

1. Kitchens should be roped off, and no unauthorized person allowed to enter them. These places require constant supervision to insure the removal of remains of food and greasy water without delay. The most important details which need attention are—(1) That the kitchens and washing-places be so located as to be handy for water, but remote from latrines, urine-pits, or other receptacles for refuse and garbage; (2) that all sullage water be made to pass readily away.

2. **Soakage-Pits.**—The latter will usually be effected by passage into soakage-pits, or, if this does not suffice, by suitable trenches. This waste water is greasy, and if allowed to pass directly on to the soil soon makes a felt-like scum, which not only impedes the soaking in of the water, but also attracts flies. A good plan is to fill the reception-pits or the upper ends of the drainage channels with coarse brushwood, bracken, or gorse, which catches and holds the grease and other organic solids, allowing the clearer liquid to run freely away into a soakage-pit, the earth at the bottom of which has been loosened by a pick (Fig. 20).

3. **Grease-Traps.**—An alternative plan is the following: Take two large biscuit-tins, and place one inside the other, the inner one resting on two or three stones, so as to leave a space between it and the outer one (Fig. 21). The inner one serves as a coarse strainer, and the outer to direct the water over and into a small pit filled with grass, heather, or brushwood, which acts as a grease-trap. From this small

pit cut a shallow trench leading to a large soakage-pit. The lower tin can be given a spout, conveniently made by cutting an inverted U- or V-shaped flap from one of the sides, turning down, and rounding off.

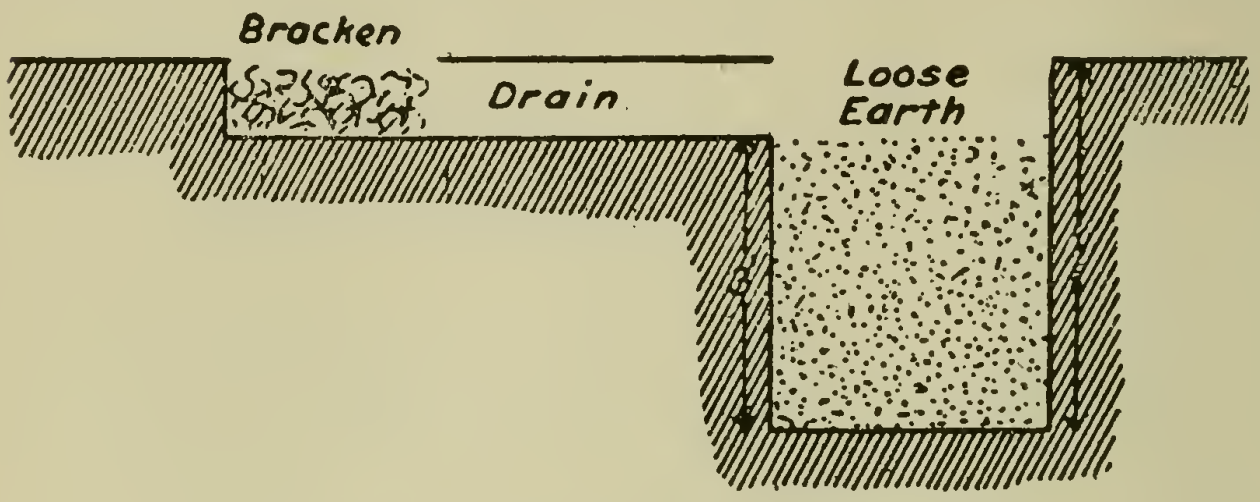


Fig. 20.—Grease-Trap for Camps.

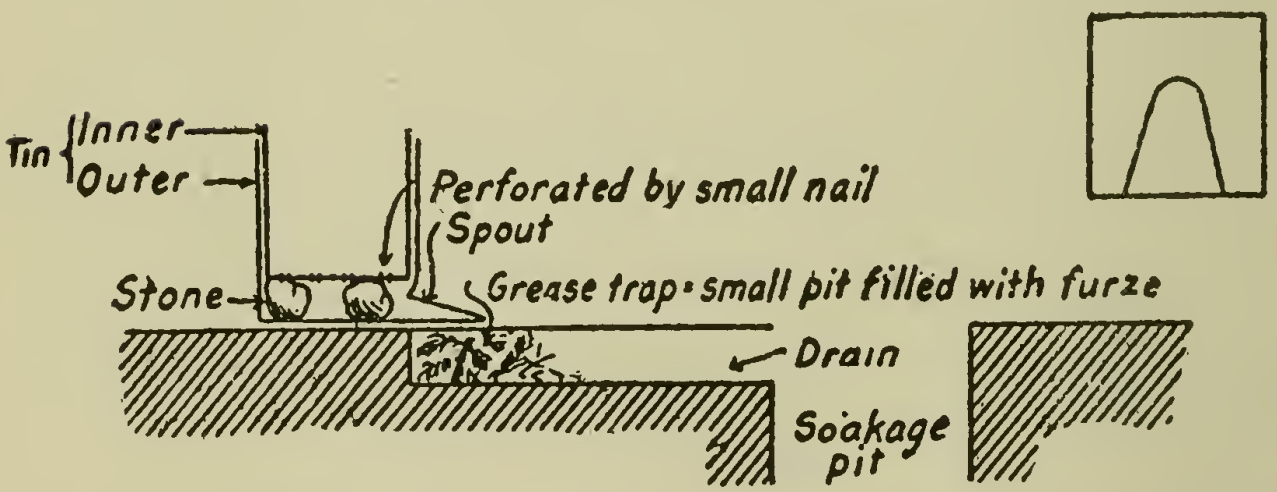


Fig. 21.—Grease-Trap for Camps. Inset shows Method of Cutting Spout.

4. A modification of the foregoing can be made by turning a box upside down over the pit or grease-trap, and cutting a hole in the bottom, into which is fitted a piece of perforated

tin (Fig. 22). In all cases the furze, grass, or brushwood, used to catch the grease must be burnt and renewed daily.

5. Cleaning Utensils.—At each kitchen or mess there should be a place provided for cleaning up utensils. This should have a table, or boxes to serve as a table, a straining-pit, a sufficiency of clean cloths, and a plentiful supply of hot water. If sand is used for cleaning vessels, it should previously be baked over a fire, and kept in a tin or box near the cleaning bench. Ashes from a wood-fire may be used

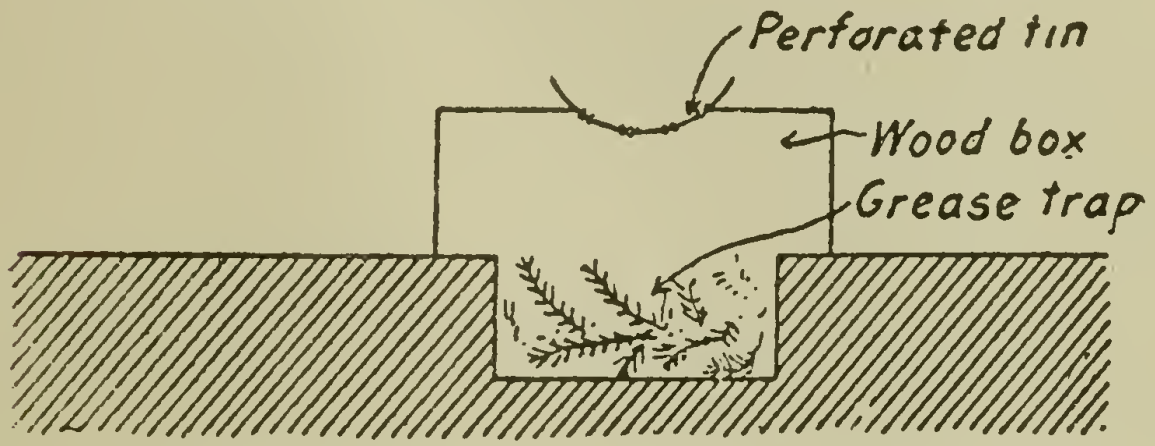


Fig. 22.—Grease-Trap for Camps.

in place of sand. The whole process should be supervised by one of the sanitary personnel

6. A sufficiency of cloths for washing up should be provided, and all those used in the cook-house or sculleries should be washed daily and dried. All dishes, knives, and other utensils, used at meal-times or for food storage, should be cleaned on a table, and not placed on the floor or taken to outside taps. For scouring tea-cans, etc., clean bath-brick kept in a tin for the purpose should be used. The use of casually collected sand should be forbidden.

Section 21.—Disposal of Refuse.

1. Receptacles.—In the absence of metal receptacles, such as covered dust-bins, dry refuse may be put in sacks hung on posts at the end of the lines; while kitchen garbage can be collected in tubs, barrels, or boxes, raised on stands close to the cooking-places. If it can be avoided, solid and liquid refuse should not be mixed.

2. Place and Methods of Disposal.—The final disposal of kitchen garbage and camp refuse is an important matter. The location of the place should always be outside the inhabited area, to leeward of the prevailing wind, and remote from the source of water-supply. There are two possible methods of dealing with this refuse—*burial* and *burning*. The former is suitable where the amount of material to be disposed of is not excessive; but when much refuse is present, the labour necessary to dig sufficiently large pits is almost prohibitive. In this case as much as possible should be destroyed by fire, and what is not burned must be buried

3. Removing Refuse.—Carts or other vehicles used for the removal of refuse should be designed so as to prevent any escape of their contents. If removal is arranged for by civil contract, close supervision must be exercised to see that there is a sufficiency of suitable tubs or receptacles with covers, that the removal is made daily in proper carts, and carried out at definite times during daylight, when the movements of the scavengers can be followed. The supervision and management of all refuse receptacles is a part of the duties of the sanitary personnel.

4. Burning Refuse.—In theory, burning is the ideal mode of disposal in all cases, but in practice the natural dampness of the material makes it difficult. The methods for the cremation of refuse vary from the use of the com-

pany kitchen fire to the employment of specially-constructed incinerators. Where available, the use of a little mineral oil will much facilitate the destruction of garbage by fire. In other cases, the construction of a simple grate of iron rods placed on turf supports is often successful in maintaining a brisk fire when fed with camp refuse. In any devices of this kind, the great essential is to secure a draught of air under and through the material to be burnt; the damper the mass, the greater the need of air. Once the fire is started and a draught secured, it will burn, provided it is not fed too quickly with damp refuse.

5. Camp Incinerator.—A simple refuse destructor can be made by digging two shallow trenches intersecting each other at right angles. Each trench should be 9 inches deep, and 9 inches wide where they cross, getting gradually shallower and wider towards the ends. The length of each trench need not exceed 5 feet. Over the angles of intersection, a chimney, some 3 feet high and 3 feet in diameter, must be built of turf sods or bricks. To support the walls of the chimney where they cross the trenches, iron bands off bales or barrels may be used, or meat-tins with the bottoms knocked out. A fire can quickly be lighted with any dry material at the bottom of the shaft, and fed steadily by throwing rubbish and refuse down the top. Other types of incinerators are described in the *Manual of Elementary Military Hygiene*, 1912.

6. In places where boulders, or large stones, or broken bricks, are not procurable, a crematory can be made of empty tins of all kinds. The tins are stacked in heaps about 4 feet high, and on and around them is piled the miscellaneous rubbish, which is then set alight. The tins serve to keep an air-space and generate an under-draught, causing the whole heap to burn fiercely. They can be used over and over again. Ultimately all tins and broken hardware should be stacked, or preferably buried, and on no account

be left lying about to mark the site of an abandoned camping-ground.

7. The making of the above simple designs of incinerator presents little difficulty, and men should be taught their use and practised in their construction. An enormous amount of material can be disposed of in a few hours if the draught trenches or holes are kept clear, and the refuse added with ordinary care. Once a fire is well alight in one of these incinerators, even fæcal material from the lactrine-buckets can be destroyed by fire, provided it does not cause offence to anyone in the vicinity. Finally, when making these incinerators, care should be taken to cut and stack the turf in the form of sods, in order to facilitate its eventual replacement.

Section 22.—Ablution-Places, Waste Water, and Horse-Lines

1. Ablution-Places.—Ablution-places should be located conveniently near the tents, and soiled or soapy water drained away on similar principles to those indicated for kitchen sullage water. Ablution-places may be made round taps, or by the side of streams, etc. Canvas screens can with advantage be rigged up round them. Benches or foot-gratings may be supplied if available. Types of ablution-places fitted with baths, suitable for large military permanent camps, are described in the *Manual of Elementary Military Hygiene*, 1912.

2. Disposal of Waste Water.—This subject has already been considered in Sec. 20. Unless the soil and gradients favour rapid absorption and drainage of all waste water, it will be advisable either to shift the kitchens and washing-places every few days, or to collect this liquid in water-tight receptacles. Such receptacles should be placed on raised platforms, and the contents should be emptied daily

outside the camp area. Before being returned to use, they should be cleaned and rubbed with a cloth soaked in crude creosote.

3. Horse-Lines.—In camps at which some of the officers are mounted, horse-lines must be provided, which will require careful supervision. They must be situated at least 100 yards from, and when practicable to leeward of, the water-supply and kitchens. The horses should be picketed together in a straight line, and not scattered over the camping-ground. Excreta should be removed continually and placed in receptacles some distance outside the lines. Arrangements for their removal may be made with a contractor. A line orderly should be detailed daily and made responsible for the cleanliness and tidiness of the horse-lines and their surroundings.

Section 23.—Sanitation in Billets.

1. Ventilation.—Next to overcrowding, the danger of which has already been discussed in Sec. 16, para. 2, ventilation is one of the most important points in connection with billeting accommodation. Ventilation may be defined as providing the inmates of houses with pure air. The results of careful research show that it is necessary to change the air of a room three times every hour in order to keep it pure, when a room has good means of ventilation, is fairly large, and not crowded. If the means of ventilation are defective, and rooms are small and crowded, the air must be changed more often every hour to keep it pure. No definite rule can, therefore, be laid down regarding ventilation. As large a superficial area as possible should, however, be allowed for each man in billets, and rooms should be chosen with large windows, to allow of a good supply of fresh air.

2. Avoidance of Draughts.—It is of great importance that it should be possible to ventilate rooms without subjecting the inmates to draughts, which may adversely affect their health. In addition to any other means of ventilation, such as fresh air inlets or chimneys, the windows should always be open on one or both sides of a room night and day as far as the weather and season admit. In this way a complete change of air can be effected. The windows should be open at the top, as the air will then enter above the heads of the inmates, who will not be subjected to draughts. As fresh air is generally colder, and therefore heavier, than the air inside a room, it tends to sink gradually and displace the warmer, impure air in the room, which rises to the top and escapes through the ventilators or windows.

3. Cleanliness in Billets.—Cleanliness in the barrack-room is another means of preventing disease. The infectious germs of some diseases can remain alive attached to particles of dust for a considerable time, and therefore the mere stirring up of dust by means of a dry duster or brush, for it either to settle again or be inhaled by the occupants of the room, is both useless and harmful. Dusting should be done with a damp cloth, rinsed out from time to time in water, and should never be done just before a meal is to be eaten in the room.

The sluicing of a quantity of water over floors should not be allowed; they can be cleaned with a wet mop or cloth rinsed out in a pail of water. Occasionally they will require scrubbing, but this should be done with soap and a minimum of water. The custom of putting blankets on a wet floor to save a few footmarks is a dirty and unhealthy practice, and should be forbidden.

4. Disposal of Excreta and Refuse.—As a rule water or dry earth-closets and dust-bins will be available on or near premises suitable as billets. When cadets are accommo-

dated in billets it will be the duty of the camp secretary, with the aid, if necessary, of a medical officer, to see that the arrangements for the disposal of excreta and refuse are satisfactory before he decides to hire or accept the loan of premises. When these arrangements are not available, they must be provided according to the directions laid down in Secs. 19 and 21, when the precautions relating to latrines and urinals in camps will also apply to them.

5. It is the duty of every user of water closets to see that the contents of the pan are properly washed away by pulling the chain of the flushing-tank. Another detail requiring attention is that of using paper torn or cut to a size not larger than that of an ordinary hand, which should be provided. Men must be taught not to use large sheets of paper, which will prevent the pan being properly cleaned, and facilitate rapid clogging up of the discharge pipe. For the same reason, pieces of cloth, rags, and other articles of the kind, must never be thrown into a water-closet. The proper place for such articles is the ash-bin.

6. Earth-Closets.—The usual arrangement for earth-closets is the provision of a pail or portable midden, placed under an aperture in a seat, with a box of dry earth, from which, by means of a scoop, the user covers over the excreta. Special care should be taken to throw a sufficiency of the dry earth over the filth in the pail, in order to obviate the smell and to prevent flies gaining access to this objectionable material. The pail contents must be removed daily. An adequate supply of finely-powdered dry soil and a sufficiency of scoops must always be available. The pails must fit closely under the seat. If there is a gap between the top of the pail and the seat, the floor is certain to be fouled. The floor must be suitably sloped, and made of some hard, impermeable material. Enough pails must be available to allow those which have been fouled to be cleaned.

7. Cleaning Closets.—No matter whether it be a water or dry earth closet, all woodwork and fittings must be kept scrupulously clean. The seats must be scrubbed daily with soap and water, the scrubbing including both the upper and under surfaces of the seat. The pans or pails must be kept clean. Dry earth-closet pails may be cleaned by first washing out the contents with water, drying and airing by exposure for a few hours to the sun, if possible, and then scrubbing over the inner surface with the creosol solution supplied for the purpose by the barrack department. The coating of these utensils with tar is objectionable, as it renders them unsightly, and tends to conceal rather than remove dirt

8. Urinals.—Urinals should be managed on similar lines to latrines. Those of porcelain or glazed earthenware must be adequately flushed with water either automatically or by hand; while those made of slabs of slate must be wiped over twice a week with sufficient heavy oil to impart a greasy surface. Urine-tubs, if used for night convenience, must be cleaned in precisely the same way as closet-pails. Their contents need to be carefully emptied each morning, with special precautions taken to see that no splashing or spilling occurs on the landings or stairways. If such does occur, it should be immediately dusted over with dry earth, and the place swept clean.

9. Disposal of Waste Water.—Drains for the disposal of waste water will usually be provided on or near premises suitable for billets. The camp secretary of cadet corps should see that these arrangements are satisfactory before selecting billets. If special ablution-places have to be provided, because the baths or other facilities in billets are inadequate, unsatisfactory, or non-existent, they must be arranged for according to the directions already given for ablution places in camps.

Section 24.—Personal Cleanliness and Care of Feet.

1. Personal Cleanliness.—Personal cleanliness must be insisted on, not only with regard to the body, but also with regard to clothing, tents, and equipment. Every soldier should bathe at least once a day, and more often if necessary, washing his whole body thoroughly with soap and water. Bodily cleanliness is especially important with respect to the teeth, hair, and feet. The teeth should be brushed and the mouth cleansed twice a day—on rising in the morning, and on retiring to bed at night. The hair should be cut short, and well brushed frequently with a clean hair-brush. The head should be washed occasionally. Hair-brushes may be cleaned by combing out loose hairs, and then dipping them in cold water in which soda is dissolved. If possible, they should be dried in the sun. Hands should be washed and nails cleaned whenever possible before meals.

2. Care of Feet.—(i) It is important that the feet of soldiers should be kept in good condition. The essential conditions for the care of the feet are cleanliness, well-fitting boots, and good socks. Cadets should not bring new boots to camp, and both socks and boots should, if possible, be inspected and approved before starting for camp. Feet should be inspected frequently during camp by officers, who should see that they are clean, and that the nails are kept properly cut—namely, straight across, not rounded at the ends, and not too short. Cadets should be made to wash their feet at least once a day, preferably before retiring to bed. If facilities for washing the feet are not available, wiping them, especially the toes, with a wet cloth will suffice to remove dirt and grease.

(ii) **Socks.**—Thick wool or worsted socks should be worn. Sore feet are occasionally contracted through the sock shrinking and becoming shortened, so that the heel tends

to come under the sole of the foot and cause creases. Men should therefore be taught to stretch their socks when they take them off, and also at the end of a march. Having stretched them, they should shake them out; and if they put them on again, they should wear them on a different foot to that on which they were worn during the march. Two pairs of socks should be used every day, the second pair being put on after the day's work is over or at tea-time. Sore feet may be prevented by greasing the inside of the socks with soap, especially those parts of the sock which fit over parts of the foot that usually become sore from rubbing.

(iii) **Boots.** — Stout, well-fitting boots are necessary for marching. They should fit closely round the heel and ankle, and comfortably over the instep and across the points of the toes. They should be ½ inch longer than the foot, and square, not pointed, in the toe The sole should be thick and studded with nails in groups of three, because boots without nails are slippery when walking over grass or heather, and soon wear out on hard roads. The heel of the boot should have an iron tip round the edge which receives most wear. Boots should on no account be blacked, but after dust and mud have been removed, they should be rubbed over with dubbin, which will clean them and tend to make the leather soft as well as water-proof.

(iv) **Tender Feet.**—Men whose feet are naturally tender and soft should be made to bathe them at night in tepid water in which a small quantity of soda or alum is dissolved. When drying after bathing, they may be dusted over with a fine powder made up as follows. Boracic acid (finest powder), 60 per cent.; powdered talc, 35 per cent.; salicylic acid, 5 per cent. Excessive sweating with the feet may be relieved by bathing them in a solution consisting of 1 ounce of formalin to 2 pints of water, or by soaking the feet in water coloured red with permanganate of potash.

(v) **Treatment of Blisters.** — Men suffering from blisters should be made to report to an officer or N.C.O., who should supervise the treatment of the blister by the man, and periodically inspect his feet until the blister is healed. He should inquire into the cause of the blister, and examine the boots and socks of the man with a view to preventing further injury. Blisters may be pricked with a needle sterilized by being held in the flame of a match for a few seconds, or left in boiling water for some minutes. When the fluid has escaped, the blister should be dusted over with absorbent powder, such as boric powder or oxide of zinc—preferably the latter. To protect the blistered part in subsequent marching, a dressing of antiseptic cotton-wool, kept in position with adhesive plaster, may be used. In this case care must be taken at the end of the march to remove the dressing, and if necessary, continue treatment. Blistered feet must be kept scrupulously clean.

CHAPTER VI

ORGANIZATION IN CAMPS*

Section 25.—General Information.

1. *Information for organizing camps for the accommodation and training of a complete battalion is embodied in this book.* This information, with necessary modifications, will apply equally well to the organization of camps for the training of smaller units, such as companies or platoons, and to the organization of camps for cadet corps. For cadet training, camps or billets are undoubtedly preferable to bivouacs, which in Britain are generally unsuitable for boys for climatic and other reasons.

2. **Numbers in Cadet Camps.**—As regards the size of cadet camps and the numbers they should accommodate, no fixed rules can be laid down. These considerations must be governed by the circumstances of each case, and will depend upon a variety of factors, including the extent of facilities in the shape of ground and necessary equipment, the number of cadets able to attend camp, and the funds available for expenses. In Britain it will usually be easier to obtain ground for camp sites for small numbers than for large. For this reason, small company camps will perhaps be found more practicable than camps for battalions or larger numbers.

3. When ground cannot be obtained for a company camp, it may be possible to organize four separate camps for platoons close enough to one another to allow the cadets to

* This chapter includes information regarding the accommodation of cadet corps in camps and billets.

be trained together as a company. This plan, however should not be carried out unless it is unavoidable. It is more convenient, more economical, and simpler to organize a company camp for 200 cadets than to organize four separate camps to accommodate 50 or 60 cadets each. In the latter case the problems of transport, food and water supply, would be multiplied, greater expenses would be incurred, and the problems of routine and training would be complicated.

4. Site of Cadet Camps (Sec. 15, para. 1).—Many important factors affect decisions regarding the site of military camps, both in war and peace, which need not be taken into consideration in choosing sites for cadet camps. For instance, these sites need not be chosen with a view to defence, or for their proximity to a line of march, and their choice does not involve problems connected with the management and care of large numbers of horses and other transport animals, baggage trains, artillery parks, and aircraft; while the problems of sanitation, food and water supply, are immensely simplified.

5. When selecting a site, regard must be had to the length of time it will be occupied, the numbers it will accommodate, the nature of the ground and soil, the aspect and elevation, the vicinity of a road, together with ground suitable for training and a rifle-range if possible, and, finally, to the problems of food and water supply. A good site, if it meets other requirements, would be in rough, open country, with plenty of ground to work over without the danger of damage to crops. If such a site is close to the sea, it will have the further advantage of affording opportunities for sea-bathing and instruction in swimming. The vicinity of a small town or village will facilitate supply and transport arrangements, but the immediate neighbourhood of large cities is as a rule undesirable.

6. Whenever possible, the site should be near the head-

quarters of a cadet unit, so as to economize travelling fares and cost of transport. These expenses may be saved or reduced if cadets can march the whole or part of the distance between headquarters and camp, and if equipment, baggage, and stores can be transported partly or wholly by cadets themselves. *Camp sites that have been occupied previously should be avoided if possible. Such sites should not be used unless it is certain that every precaution has been taken to clean them thoroughly since they were last occupied, and unless the position of old latrines and rubbish-pits are clearly marked.*

7. Public and Private Ground.—(i) Private ground, if it can be obtained free of charge for hire, is greatly preferable to public land as a site for cadet camps. On private ground the camp will be more comfortable to live in, as it will not be overlooked. Discipline and order will be more easily preserved, and routine and training more easily carried out. Even where public land is available, it is very doubtful whether it will provide adequate facilities for organizing camps and carrying out training satisfactorily. It should not, however, be difficult for arrangements to be made with public-spirited persons to give facilities for cadet corps on private ground, provided the owners are secured against damage to property and inconvenience of any kind. This, again, is a matter capable of easy arrangement, and will depend to a great extent on the discipline and good behaviour of cadets themselves.

(ii) **Farms and Camps.**—Co-operation between farmers and cadet corps might provide a good solution of the twin problems of camp sites and ground for training. It might be possible to arrange for farmers to benefit pecuniarily through the sale of food-supplies to the camp, and through the hire of their horses and vehicles for transport, in return for their granting the use of the land for the camp and for training free of charge. Such an arrangement would solve

the problem of a good water-supply, and might help to solve the problems of transport and food-supply. Under ordinary circumstances, farms would also bring camps into touch with postal and telegraphic facilities. These suggestions may be worth the consideration of commanding officers who are unable to make other arrangements for the training of their corps in camp

8. Water-Supply.—The water-supply must be good as well as ample. No site should be selected for a camp till the water has been tested and pronounced pure and fit to drink by a qualified medical officer, when this precaution is deemed necessary.

9. Cadet Billets.—Billets, as an alternative to a camp for cadet training, involve both advantages and disadvantages. Provided suitable accommodation can be found free of charge, billets materially reduce the expenses of training, for they do away with the necessity for the hire and transport of tents and other camp equipment. They render the problem of food and water supply easy of solution, and, if equipped with kitchens, may save the trouble and expense of providing camp kitchens with their equipment. In billets more time will be available for purely military instruction, as cadets will not have to perform numerous fatigue duties incidental to camps, such as laying out the camp, pitching and striking tents. Problems of camp sanitation generally, including the provision of latrines, and the disposal of large quantities of rubbish, refuse, and dirty water, either do not arise at all or are more easily solved in billets. Finally, in wet or inclement weather, billets are more comfortable, and perhaps safer from the point of view of health, than camps.

10. On the other hand, it may be more difficult to keep cadets under proper supervision and to maintain good discipline among them in billets, especially if they are distributed in small numbers among several houses. This, of

course, is a vitally important consideration. The training of cadets in camp duties will, of course, be curtailed appreciably in billets, because they cannot be instructed in laying out camps, in pitching and striking tents, in sanitation, cooking, and other duties incidental to camp life. Billets, moreover, afford less opportunities as compared with camps for the instruction of cadet officers and N.C.O.'s in various duties connected with the organization, management, and care of their commands. These are drawbacks, because the above duties, besides being useful from the point of view of military training, help to develop powers of organization in cadet officers, and help to form character in the qualities of resource and initiative. They further teach cadets to adapt themselves readily to circumstances—a faculty which they must possess before they can be made efficient soldiers.

11. As in the case of cadet camps, the problem of billeting cadets is extremely simple as compared with that of billeting soldiers in peace or war, the only considerations to be taken into account by cadet officers being those of health and general convenience. These considerations are much the same in principle as those which apply to cadet camps. That is to say, billets should be as near as possible to the headquarters of units, so as to economize railway fares and expenses of transport, and also near ground affording good facilities for training. Every care should be taken to make sure that billets are absolutely healthy as to locality, situation, and accommodation, especially with regard to drainage and water-supply

12. Number in Cadet Billets.—(i) The general principles laid down for numbers in camps apply also to billets It will as a rule be easier to obtain billets for small units than for large numbers. Accommodation will therefore be more easily found for platoons or companies than for battalions On the other hand, for reasons already stated, the system of

accommodating cadets in small numbers in separate billets should be avoided if possible. Commanding officers should try to arrange for accommodation which will allow at least twenty-five to thirty cadets to be billeted together under the supervision of an officer. If this is not possible, cadets should be billeted in sections, each under its own non-commissioned officer. As in the case of camps, billeting accommodation should be arranged in a locality so as to allow of at least 150 to 200 cadets being trained together as a company.

(ii) **Accommodation.** — The subject of accommodation in billets is dealt with in Sec. 23 of Chapter V., under the heading of Sanitation in Billets. *Overcrowding must on no account be permitted, as being exceedingly injurious to health.* As a rough guide to cadet officers as to the number of cadets to be accommodated in rooms of various sizes, the following directions laid down for the housing of soldiers in billets, may be quoted from the *Manual of Elementary Military Hygiene*, 1912: "In distributing men to the rooms in houses, it is desirable that the following numbers be not exceeded—namely, in rooms over 15 feet wide and under 25 feet wide, not more than two men for every yard of length, and in rooms 25 feet wide and more, not more than three men for every yard of length." This space is considerably less than that allowed for each soldier in barracks in Great Britain, which is 60 square feet, or 600 cubic feet. The ventilation of rooms, however, as well as their size, must be taken into account in deciding the number of cadets to be quartered in them.

13. Billets in Schools, Farms, etc.—In the case of corps attached to schools, it may be possible for cadets to be billeted in their own school building free of charge for rent during the summer vacation—their accommodation, of course, being arranged, not under ordinary, but under strict military conditions. It may also be possible to arrange

with farmers for billeting cadets in suitable barns, sheds, and other farm buildings especially prepared for their reception, which may be available under conditions similar to those suggested in connection with camps on farm-lands, the various advantages of which will apply equally to farm billets. It might be possible to accommodate a whole platoon or company in farm buildings, if large enough, the officers being quartered in the farm-house or in tents.

14. It may also be possible, by arrangement with the the persons or public authorities controlling drill-halls, national schools, and other suitable buildings, to allow them to be used for cadet billets during the summer vacation free of charge for rent. These suggestions should not prove impracticable if satisfactory arrangements can be made with cadet corps to meet any small expenses incurred, such as heating and lighting, for instance, and for the proper care and cleaning of buildings, for the prevention of damage to them, and for compensation in case of damage.

15.—Equipment.—All camp and personal equipment should be reduced to a minimum, and comprise only what is absolutely indispensable for health and comfort. The purchase and hire of necessary equipment, and the cost of transporting it to camp, is a question of expense, and therefore depends on the funds available. In Appendix V. will be found information regarding hire of camp equipment.

16. Personal Equipment.—Apart from his belt and cartridge-pouch, every cadet should bring with him to camp the following articles: Water-bottle, haversack or rucksack, service mess-tin, knife, fork, spoon, greatcoat or cape. Each cadet should also bring one complete set of spare underclothing, including shirt, socks, and a pair of spare boots, a spare uniform or a civilian suit, soap, tooth-brush, hair-brush and comb, nail-brush, clothes-brush, sponge,

cheap camp mirror, two bath towels, and pyjamas. Every article of equipment should, if possible, be marked plainly with the initials and name of their owner, and be packed in a separate hand-bag or kit-bag, clearly marked with the initials and full surname of the cadet to whom it belongs.

17. Camp Equipment.—(i) **Tents.**—The ordinary service "bell" tent or circular single linen tent is the most suitable for cadet camps. It is made of canvas, and weighs with pole when dry about 70 pounds, but its weight increases considerably if it becomes wet. It is 10 feet high, and has a base diameter of 12½ feet. It is issued packed in a valise containing forty-two pegs and two mallets for driving them into the ground. Each tent will accommodate twelve cadets, which number should not be exceeded.

(ii) **Bedding** should consist of one water-proof sheet and two blankets per cadet, pillows being improvised with clothes, or a bolster filled with straw. Wooden tent-bottoms, which cover the ground inside the tent in the manner of floor-boards, are sometimes issued instead of water-proof sheets, and are useful when the ground is wet. But they are weighty and cumbersome things, which are difficult and expensive to transport, and are not, therefore, ordinarily suitable for cadet camps.

(iii) **Miscellaneous.** — Tent lanterns to burn candles, arm-racks fixed to the pole of the tent to hold rifles, and canvas pails or buckets to wash in, practically complete the equipment necessary for cadet camps. If spades cannot be borrowed for digging trenches round the tents in wet weather, if required, a few entrenching tools must be included.

18. Equipment in Billets.—Equipment in cadet billets should, whenever possible, be confined to personal equipment and bedding. The former will consist of the articles mentioned as necessary for camp, and the latter of two

blankets and perhaps a pillow. Cadets should be made to sleep on the floor, and use their mess-tins for meals. It must be remembered that soldiers on active service have a right to shelter only in billets, unless arrangements are also made to supply them with food. Cadets, therefore, must not expect to enjoy the use of furniture, bedding, and other luxuries. If these are provided by the owner of the billet, they must be received by cadets as a favour, not as a right.

19. Bounds.—As a general rule towns and villages in the vicinity of camps should be placed out of bounds. This should also be done, if possible, when cadets are accommodated in billets in buildings outside towns and villages. In the case of billets in towns and villages, the problem of bounds will be more difficult to solve, but it may be done, if necessary, by placing all except certain well-defined quarters or streets out of bounds. All public-houses, shops, fields with growing crops, fruit orchards, railway-lines, rivers, lakes and ponds, except those authorized for bathing, should be placed out of bounds, and if necessary any other places, according to the discretion of commanding officers. If the routine of camps and billets is arranged so that the time of cadets is fully occupied with training and amusements, which give employment to all, it is unlikely that cadets will have opportunity or inclination to spend much if any, of their leisure away from their comrades and their quarters or training-ground.

20. Visitors and Strangers.—No stranger or persons other than members of units in camp or persons transacting business should be permitted to enter camps or billets without written permission, signed by the commanding officer. The sentries in camp, and the officer, N.C.O., or senior cadet in charge of each group in billets, may be made responsible for enforcing this order. Special arrangements may be made by commanding officers to enable cadets to

receive their friends in camp at certain hours or on certain days, or to witness prize competitions, athletic sports, and ceremonial parades. Cadets should be forbidden to make acquaintance with, or admit strangers into their company. They must limit their conversation with strangers to polite replies to questions, and then proceed upon their business.

21. Punishments.—If possible, punishments should be eliminated altogether from the routine of cadet camps and billets. Minor derelictions of duty and offences against discipline should be punished by withholding permission to leave camp in hours of leisure, and making cadets do close order drill, or attend other instructional parades, during the time devoted to amusements and prize competitions. Serious offences of any kind should be punished by instant dismissal from camp. Officers commanding camps or billets should make careful arrangements for dealing with breaches of duty, discipline, and good conduct.

22. Medical Examination.—A medical examination of cadets should, if possible, be carried out before they start, and should be enforced as a strict rule when there is any ground to suppose that a cadet is unfit, or if for any physical reason there is a doubt as to whether, in his own interest or that of his comrades, he should be allowed to attend camp. Cadets who show any sign of tuberculosis, and those who have been in houses where a person is suffering from contagious or infectious diseases, or have otherwise been in contact with such persons, should not be allowed to attend camp. These precautions are so obviously proper, and so clearly in the interest of all concerned, that parents, employers, and guardians, should co-operate with officers commanding cadet corps to insure that effect is given to them.

23. Hospital Tent or Sick Bay.—In organizing camps and billets, a hospital tent or sick-inspection room should be

provided for the reception of sick or injured cadets, under the supervision of the medical officer, if one attends camp. If no medical officer is attached to the camp, arrangements should be made to keep in touch with a local practitioner, so that his services may be procured as soon as possible if required

24. Infectious Diseases.—(i) If an infectious disease breaks out in a cadet camp, it may spread rapidly among the boys. The first case must be isolated immediately. As soon as possible the sick cadet should be removed from camp to his home or some neighbouring hospital, under the supervision of a doctor, who will see that everything possible is done for his safety and comfort.

(ii) The uniform, clothes, equipment, bedding, and personal effects of the sick cadet should at once be removed for disinfection under the orders of the doctor. If necessary, the cadets sharing his tent, or brought directly in contact with him, should be isolated from their comrades or sent home after due notification to their parents or guardians. Finally, if the doctor deems it advisable in the interest of the cadets and the public welfare, the camp should be broken up. *In doing this, all necessary precautions must be taken to prevent further spread of infection.*

25. Fatigue and Exposure.—The dangers of over-fatigue in training and recreation must be guarded against. Cadets must be protected against the ill-effects of exposure to hot sunshine and cold or wet weather by regulating their headgear and clothing, by changing clothes, socks, and boots, rendered damp by rain or perspiration; by serving cadets with hot coffee or beef-tea when necessary, and generally, by adapting their garments, diet, routine, and instruction, as far as possible, to suit the conditions of temperature and weather

26. Miscellaneous Hints.—(i) Officers should watch their cadets carefully. If any one of them does not look fit, he

should, if necessary, be made to report himself for examination at the hospital tent or sick-inspection room.

(ii) No work should ever be commenced on an empty stomach. Arrangements must be made for cadets to be served with a cup of cocoa or tea before the morning parade, if it is held before the regular breakfast hour

(iii) Care must be taken to prevent cadets drinking from brooks, streams, taps, or from any but authorized sources of water-supply in or out of camp. They must not be allowed to buy fruit from any but specially authorized sources of supply. They must be warned against the eating of unripe fruit.

Section 26.—Training and Recreation.

1. Value of Cadet Camps and Billets.—In the case of cadet corps belonging to large cities, the annual training in country camps or billets may provide the best, and perhaps the only, opportunity for carrying out field training by day and night under suitable conditions, in the absence of good facilities in the shape of ground in or near their home districts. As a rule it will afford a favourable opportunity for bringing together a number of different corps in a locality which may in some cases consist of a single platoon each, and which are trained by themselves throughout the year, and organizing them into larger units for training as companies or battalions when such training is desirable, and can be undertaken conveniently and usefully.

2. Training in cadet camps and billets may thus give cadet officers experience in the art of command with larger numbers than usual. It will give officers valuable experience of practical, if simple, problems of organization. It will afford opportunities for developing character and for training both officers and cadets in important military duties dealt with as subjects of instruction in this book,

which it may be difficult or impossible for them to learn under practical conditions except in camps or billets to which they are incidental. Finally, this training will afford a good opportunity for carrying out the annual inspection of cadet corps, and will economize the time and services of inspecting officers.

3. Regular Attendance.—Arrangements for training and organization will be simplified greatly if all the members of a corps attending camp or billets for training arrive and leave together in a body at predetermined times, and they will be complicated and rendered difficult if individuals or small parties arrive after the rest and leave before them at different times. Every effort should be made to avoid irregular attendance, not only on grounds of general convenience, but because it will interfere with training. The programme of training cannot be carried out satisfactorily and the necessary continuity and progression of instruction cannot be preserved unless regular attendance is assured.

4. Need of Tact.—The success of the instruction carried out in camps or billets, as well as the smooth working of the arrangements for organization, depends largely upon the tact exercised by the commanding officer and senior officers in their dealings with junior officers and N.C.O.'s, especially when different corps or self-contained units are being trained together, and their officers have to work with, and perhaps under, officers belonging to other units, as, for instance, when platoons are trained together as companies, or companies trained together as battalions. It is of the greatest importance under these conditions to avoid all possibility of friction and unpleasantness.

5. Commanding officers must therefore make careful arrangements to have all questions which may give rise to friction between officers and cadets of different units referred direct to them, and must settle such questions with consideration and tact. Senior officers must take

scrupulous care to avoid undue interference with the methods employed by officers and N.C.O.'s under them in training their commands, especially if these officers belong to other cadet units, though they must, of course, exercise a judicious supervision over their work, and correct faults when necessary. They must, however, perform these duties with consideration, and must, above all, avoid correcting officers in the presence of their N.C.O.'s or cadets, as such action is calculated to damage the authority of officers, and to be prejudicial to good discipline.

6. Scope and Progression of Training.—(i) No fixed rules can be laid down regarding the scope and nature of the training, nor can a uniform scheme of instruction be drawn up which is suitable for all corps. These questions must be influenced by the special circumstances of each case, and depend to a great extent on the time, funds, and facilities available for training. Cadet officers must therefore use their judgment in drawing up a scheme of instruction to suit the conditions under which their commands are trained, and they must adapt it carefully, according to the strength and ability of cadets. A few broad rules regarding training in camps and billets may, however, be laid down for the guidance of instructors.

(ii) The temptation to attempt too much in the time available must be avoided. It is better to carry out thoroughly a moderate scheme of training, the subjects of which are well within the powers of cadets, than to hurry through a full programme containing subjects which are to any extent beyond their powers. Training should however, consist of the more important and more advanced subjects of military instruction in preference to elementary subjects. Preference should be given to subjects which allow cadets to be trained together in large units, as in the case of company drill and schemes of attack, defence, or outposts. Such instruction, besides being valuable, is

more suitable for a scheme of training in camps or billets than the plan of dividing cadets into small classes for instruction on a variety of different special subjects.

(iii) In carrying out the details of a scheme of training, it is of the utmost importance to avoid overtiring cadets in mind or body This rule is especially important with respect to the instruction arranged for the earlier part of each day. The principle of introducing elements of variety into instruction and making it thoroughly interesting to cadets, which is emphasized throughout the books of this series, must be observed with respect to the scheme of training in camps and billets. The hours devoted to instruction should not be too long, and should include intervals for rest Whenever possible; subjects of instruction which necessitate physical exertion, and are likely to tire cadets, should be alternated in the scheme of training with subjects which do not necessitate physical effort. In the alternative, these subjects should be followed by time reserved for meals or for leisure.

7. Fatigue Duties. — All unnecessary fatigue duties should be abolished as tending to tire cadets and be irksome to them, and also because they take up time which would be better spent in military instruction. Absolute order and cleanliness in tents, camping-grounds, and billets, as well as personal cleanliness and tidiness, is, however, essential for the health of the camp as well as for the discipline and efficiency of cadets. The cleaning of arms and accoutrements is also essential for their care and preservation. If, however, rigid simplicity with regard to uniform, equipment, and rules of life is made a rule in cadet camps and billets, the necessary fatigue duties should easily be reduced to the minimum necessary for cleanliness, preservation of health, order, and efficiency.

8. Elasticity.—Schemes of training must be elastic, so as to be capable of modification in case of interruption

through bad weather. They must include plans for carrying on instruction indoors or under shelter when it is not possible to do so out of doors. The manner in which this may be done to the best advantage must be left to the discretion of instructors. Physical training exercises and active games should form part of these alternative arrangements to keep cadets fit, and compensate them for the loss of active exercises out of doors.

9. Indoor Instruction.—Indoor instruction may consist of lectures, illustrated, if possible, by lantern slides or landscape targets,* dealing with the various military subjects, including sanitation and military hygiene. Classes may also be held for practical work in first aid, signalling, cooking simple rations in mess-tins under conditions approximating to those of service, and in subjects such as field-sketching, map-reading, military reports, and knotting. Conferences for the instruction of officers and N.C.O.s may also be held during bad weather.

10. Subjects of Instruction.—(i) *Camp duties* will necessarily form the basis of a scheme of instruction when cadets are under canvas instead of in billets. But these duties must be introduced into the scheme with care and discrimination, and should not occupy more time than is necessary. As a rule striking and pitching tents, loading and packing equipment with other transport duties, cooking in mess-tins, and sanitation should be classed as the more important subjects of instruction in camp duties. *Sentry* and *guard* duties, together with *ceremonial drills*, should be reduced to a minimum.

(ii) *Battalion drills*, even when there are sufficient numbers to carry them out, should be limited to movements for enabling the battalion to form up and march on parade, march off from parade, and march past on ceremonial occasions. The limited time available for training cadets

* See *Drill and Field Training* of this series.

throughout the year, as well as in camp, will be better spent in company drill, field training, and the other special subjects contained in the various manuals of this series than in battalion drill.

(iii) *Field entrenching*, even in the form of elementary spadework, will as a rule lie outside the scope of cadet training. If, however, time and facilities are available instruction in this subject may be carried out.

(iv) With regard to instruction generally, subjects such as *physical training exercises*, which form part of the daily lessons in schools, should be reduced to a minimum, and perhaps disregarded in the scheme of training. The same remark applies to *close order drill*, which should be reduced to the minimum necessary for practising *company drill* or handling bodies of cadets. *Musketry* may be reserved for prize competitions if range facilities exist for cadets to carry out this branch of training throughout the year. If this is not the case, musketry, if possible, should be one of the most important subjects in the scheme of training. Advantage might also be taken of opportunities for training cadets in *swimming and life saving*, if camps or billets offer facilities for doing so when cadets are unable to be trained in these important subjects at home or at school.

(v) **Special Subjects and Competitions.**—With these exceptions training in special subjects which can best be taught during the year, such as those already mentioned, together with *signalling*, *first aid*, and *cooking*, may be omitted from the scheme of training. Prize competitions may, however, be organized in some of these special subjects, and others may be included in field exercises or in the alternative arrangements for training in bad weather.

(vi) **Field Training.**—Field training should be the principal subject of military instruction in cadet camps and billets. It is not only the most beneficial subject from the point of view of health, but the most attractive. It is full of variety,

and may be made to combine instruction in a great number of important special duties under practical conditions approximating to those of service. Instruction in the work of outposts by night and training in elementary *night operations*, including developing the sight and hearing for use by night, silent advances, etc., should be included in the scheme of training among its most important subjects.

11. Hints to Instructors.—The following suggestions regarding arrangements for training are made for the guidance of instructors. It will as a rule be best during the first few days of training, if there are sufficient numbers to form more than one company, for the companies to be placed entirely at the disposal of their captains for instruction in company drill. If a company has not had previous opportunities for working together as a company unit, care must be taken to make instruction progressive. The different movements in company drill should be thoroughly mastered. All cadet officers should be given the opportunity of commanding the company as well as their platoons. Non-commissioned officers should be practised in commanding sections and platoons.

12. The following suggestions may be made with reference to the routine table on p. 139. The hour before breakfast may be devoted to company drill, carried out with or without arms. The parades between breakfast and dinner, when this time is not spent in a tactical scheme of attack, defence, or outposts, may be divided into two periods, each of three-quarters of an hour or an hour's duration, with an interval of half an hour between them. These parades may be used for instruction in different subjects, such as practising the company in movements in extended order. If platoons have been thoroughly trained during the year in their drill and field training, according to the instructions laid down in Chapter IV. of the *Drill and Field Training* Manual of this series, they should very quickly

learn to work together as a company. When the company have been practised sufficiently in close order drill and extended order movements, the field training of cadets should commence, and consist as far as possible of simple and attractive tactical schemes carried out by day and night.

13. In carrying out these schemes full advantage should be taken of facilities in the shape of ground. Each scheme should be carried out if possible on ground over which cadets have not worked before. The ground chosen for these schemes should differ in nature and features as much as possible, so as to train cadets thoroughly in applying the principles of instruction to a variety of conditions. As a rule tactical schemes should be arranged so that they can be brought to a conclusion in the course of a single morning, afternoon, or evening, or at the most in the course of a single day. After important schemes have been carried out, the work of cadets should be made the subject of criticism and remarks by the commanding officer to officers and N.C.O.'s at conferences, and also in short lectures to cadets. These conferences and lectures may take place on the ground immediately after an exercise is concluded, or afterwards in camp during the evening or at some other convenient time.

14. Table of Subjects.—The various subjects of instruction which have been discussed in the foregoing paragraphs are set out in the form of a table for the convenience of instructors. They are arranged so that it is possible to see at a glance which are suitable for a scheme of training for cadets in camps and billets, which are suitable for alternative arrangements for instruction in the case of bad weather, or when the normal programme cannot be carried out for any reason, and which are suitable for military and other prize competitions. The arrangement of subjects in this table on p. 113 is not meant as a fixed classification, and may be modified as desired.

15. Conferences.—(i) Commanding officers should pay special attention to the training of officers and N.C.O.'s

TABLE OF SUBJECTS

Scheme of Training.	*Special Subjects.*	*Prize Competitions.*
(*a*) Camp duties. (*a*) Sanitation. (*a*) Ceremonial. (*b*) Company drill (*a*) Conferences. (*b*) Field training (attack, defence, outposts, night operations). (*b*) Lectures.	(*a*) Cooking. (*e*) Simple field entrenchments. (*b*) Field sketching. (*h*) First aid. (*a*) Knotting. (*d*) Map reading. (*b*) Military reports (*c*) Musketry. (*d*) Signalling (Morse and semaphore) (*b*) Bayonet fighting.	(*f*) Cross-country races. (*d*) Despatch carrying. (*f*) Flat races. (*f*) High and long jumping. (*c*) Judging distance. (*a*) Loading and packing equipment for transport. (*f*) Military obstacle races. (*c*) Musketry. (*a*) Pitching and striking tents. (*d*) Signalling. (*f*) } Swimming and (*g*) } life-saving. (*h*) Bayonet fighting.

[1] The subjects lettered (*a*) are contained in this book, and those lettered otherwise in other Manuals of this series, as follows: (*b*) *Drill and Field Training* Manual; (*c*) *Musketry* Manual; (*d*) *Signalling* Manual; (*e*) *Field Entrenchments*; (*f*) *Physical Training* Manual (Senior Course); (*g*) *Physical Training* Manual (Junior Course); (*h*) *First Aid.*

while in camps and billets by means of conferences presided over by them personally or by a senior officer. At these

conferences various problems connected with training and organization can be discussed and settled. For instance, questions concerning routine or the details of the tactical schemes which are to be practised may be discussed and decided at such conferences, in which junior officers and N.C.O.'s will be invited to express their opinions. Conferences should also be held after tactical schemes have been carried out to enable the commanding officer to make suggestions for the guidance and information of those present.

(ii) Conferences to discuss general problems of cadet training and organization, or military subjects of practical interest to cadet officers and N.C.O.'s, may also be arranged to be held in wet weather or in the evenings. Apart from their educational value, these conferences will lead to a useful exchange of views between the officers of different corps, and help towards the solution of various difficulties connected with the work of organizing, equipping, and training cadet units. They should also help to preserve consistency in the method of cadet training, and make for the attainment of a higher general standard of efficiency in cadet corps.

16. Discipline.—Discipline is the fundamental principle of military training and an essential condition of military efficiency. The preservation of good discipline in cadet camps and billets is absolutely necessary, not only for their utility from an instructional point of view, but also because in the absence of good discipline it may be difficult or impossible to obtain facilities for either camps or billets.

17. The preservation of discipline and order in camps and billets also affords a good opportunity for training cadet non-commissioned officers to handle their commands. Non-commissioned officers should be made responsible for the good behaviour of their sections. Senior cadets in charge of squads and of groups of cadets in tents and

separate billets should similarly be held responsible for the preservation of order.

18. Recreation Committee.—(i) Recreation should be made a prominent feature of life in cadet camps and billets. A recreation committee should be formed, consisting of a number of cadet officers and non-commissioned officers representing the different corps or units brought together for training. A cadet officer should be chosen to act as secretary of the committee. As a rule the afternoon or evening will be found the most convenient time for recreation. Amusements may be divided into prize competitions in various military duties, athletic sports, games, and concerts. To these may be added swimming and life-saving, if suitable facilities exist. These different forms of amusement will allow of recreation out-of-doors, and indoors at night or in bad weather if facilities are available. The committee may, if funds are available, provide cheap sets of dominoes, draughts, and chess, as well as a few newspapers or illustrated magazines, to help to pass the time in bad weather or during moments of leisure.

(ii) The nature of recreation and the time of day or night for which it is arranged must be regulated carefully according to the programme of training to avoid fatiguing cadets. Forms of amusement which involve physical exercise must be avoided immediately after or before instructional work likely to tire them physically. On the same principle, prize competitions in military duties—as, for example, signalling, despatch-carrying, or musketry—must not immediately follow or precede instruction in the same duty or instructional exercises of which it has formed part.

19. Prize Fund.—A prize fund, made up of small limited contributions from the cadets in camp and others, should be raised by the recreation committee for prizes and other expenses connected with the competitions and sports. This fund may be increased by contributions from profits

arising from the dry canteen or grocery institute if there is one in camp. Prizes should consist of useful articles of practical value to cadets, such as pocket-knives, binoculars, compasses, and watches.

20. Principle of Equal and Common Benefit.—(i) All recreation should be organized as far as possible on the principle of equal and common enjoyment and benefit to all. That is to say, amusements of every kind should be arranged so that every cadet in camp, or as large a number as possible, can take an active part in them. The system by which an active part in prize competitions in military duties, sports, and games is reserved for a few cadets representing each corps or unit, while the rest are limited to the inactive part of mere spectators, should be avoided as bad in principle and as likely to defeat the objects for which recreation is organized.

(ii) If competitions are arranged as far as possible between teams representing the whole or a large proportion of the members of each competing unit, and if results are decided on the average performance of such teams, not only will effect be given to the principle of equal and common benefit to all, but a good average degree of proficiency in military duties and athletic sports will be encouraged among a whole body of cadets as opposed to the ideal of a high degree of excellence in a few champions representing the whole of their unit or corps.

21. Revival of Historic Customs.—(i) In the past the regular practice of athletic sports and active games in towns and villages throughout England, together with rivalry in skill with weapons, was common among the youth of the country, and played an important part in developing the physique of the nation and forming its character in many of its most valuable traits. These martial sports and active games also helped in no small measure to increase the strength of the nation in time of

war. The annual training of cadets in country camps and billets through the opportunities which it affords for outdoor sports and military competitions may be instrumental in reviving these customs among the boys of the nation, especially among those who live in the more populous quarters of great cities, or those who for other reasons are without facilities for habitually playing active games, and in consequence have lost interest in them except perhaps as spectators, and taken up other and less beneficial kinds of recreation.

(ii) Officers commanding cadet corps should therefore encourage the regular practice of athletic sports in their commands. Competitions might be organized between different units, to be carried out at intervals during the year. In co-operation with other commanding officers, an annual athletic sports meeting might be organized to take place during the period of camp training at which the different corps or units brought together for instruction compete against one another in various athletic events and military prize competitions. The recreation in camp would thus become an important event in the lives of cadets, and would do much to popularize the annual training among them. These meetings, moreover, would be certain to attract public attention in the districts in which they were held, and help to stimulate national sympathy and interest in the work of cadet corps.

Section 27.—General Rules for organizing Camps.*

1. Organization Committee. — The arrangements for organizing camps and billets should be carried out by an organization committee consisting of senior cadet officers, preferably those experienced in this work. When a number

* The information regarding organization in this chapter can be adapted, with necessary modifications, for camps containing large or small numbers.

of different units are brought together for training, the committee should consist of officers representing each unit. The committee should appoint a secretary to make necessary arrangements under its orders. The first duty of the secretary will be to obtain particulars of the different units and the total numbers to be accommodated. It is impossible to go into details regarding organization, because its nature in each case will depend upon a variety of factors, including numbers, which may vary greatly. The subject of organization must, therefore, be considered very generally in the light of certain broad principles upon which it must be based.

2. Grouping of Units.—As far as possible, units should be grouped together in camps and billets, according to the district and locality from which they come, and sections, platoons, and companies should be kept together according to their own organization. At the same time, companies should, if possible, be approximately of the same strength. Therefore platoons which are not already organized into companies may be grouped with other platoons to make up companies which are deficient in numbers. Platoons and sections, however, must not be broken up, and the officers and cadets distributed among other units to bring them up to full strength.

3. Camp Commandant and Adjutant.—The senior cadet officer should be the camp commandant. He will, when necessary, select an officer to act as adjutant. As a rule, when the number of cadets in camps or billets is less than 400, an adjutant will not be necessary. The commandant of the camp will be able to combine both duties, while the orderly officer of the day can do the guard mounting duties, etc. If numbers do not equal a company at full strength, a cadet officer may perform the duties of quartermaster as well as a certain number of his company duties; but in the case of a company at full strength, or a larger number,

an officer should be appointed quartermaster. Each cadet battalion must have a quartermaster, and when there are more than two battalions in camp there should also be a brigade or camp quartermaster.

Section 28.—Preliminary Duties.

1. Taking over Stores.—(i) When tents and other camp equipment are hired for the use of the camp from a contractor or the Ordnance Department, the camp secretary, who arranges the hiring, should appoint a day and hour for the handing over of the same by the hirer to the camp quartermaster. The greatest care in checking and counting stores should be taken, otherwise losses must occur, which will, of course, have to be made good by the unit responsible.

(ii) When different platoons which are not ordinarily organized as a company are temporarily grouped into company units for the period of training in camp, it is advisable, in order to help towards an easier and more exact settlement of bills and other claims, that each platoon should draw its own equipment and rations, instead of the equipment and rations of the company unit being drawn as a whole. The same principle may be applied to different companies which are temporarily grouped into battalions for camp training.

2. Camp Quartermaster.—The camp quartermaster must proceed to the camping-ground a day or two before the arrival of cadets to plan out the camp, take over stores, allot tents, camp equipment, etc. Unit commanders should give him at least twenty-four hours' notice of the time of their arrival, so that he can make the necessary arrangements for feeding the cadets. The following duties must also be carried out by the quartermaster before the arrival of cadets in camp:

(i) The plan of the camp should be decided, and the camp laid out, either with tents already pitched or placed ready for pitching or with the correct positions for pitching them clearly indicated

(ii) Latrines and washing-places should be prepared, and their positions clearly indicated.

(iii) The camp kitchen should be prepared, and its position clearly indicated.

(iv) Refreshments should be prepared ready to serve out to cadets on arrival.

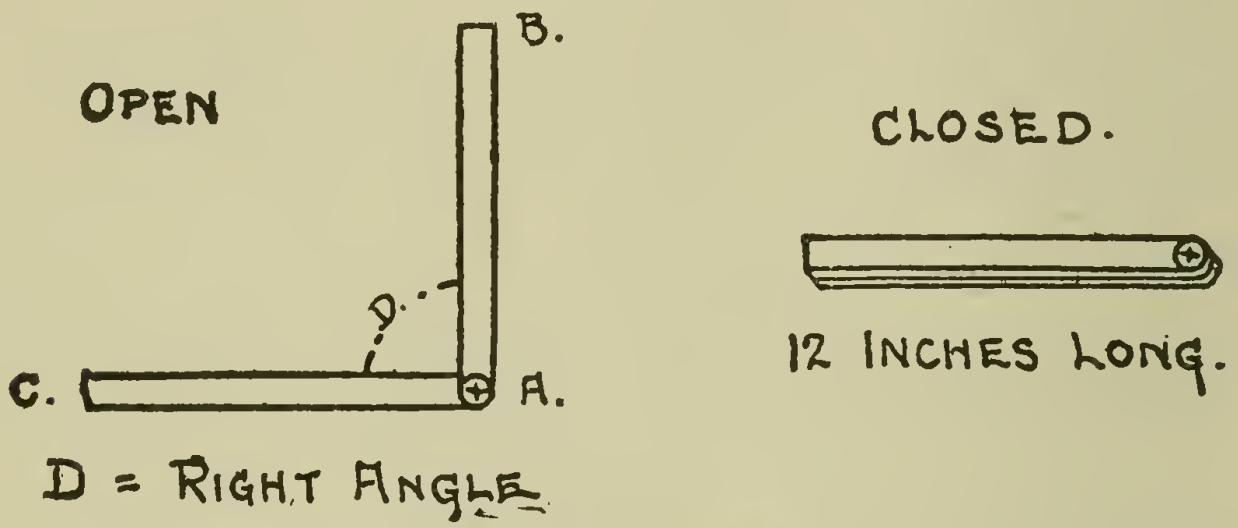


Fig. 23.—A Square.

3. Directions for planning a Camp.—The quartermaster, with his assistants, will lay out the camp. For this purpose he should be provided with a small *square* and a *line*. The square consists of two narrow pieces of wood, each 12 inches long, held together by a screw at one end, so that they can be moved as on a pivot (Fig. 23). A line consists of a convenient length of cord along which pieces of tape are tied at every 7, 8, 9, or 10 yards (Fig. 24). The camp can be laid out correctly with the square and line by observing the following directions:

(i) **Use of Square and Line.**—Lay the square on, or a little above, the ground at a position corresponding to one of the corners of the camp. Open it at a right-angle, as shown in Fig. 23. Fix a flag on the ground at the point corresponding to that marked *A* in Fig. 23. To determine the straight lines which will run at right-angles from this flag to mark two sides of the camp, look along the square, and with the help of assistants fix flags in the ground at a convenient distance away from the flag at *A* according to the size of the camp, so that the positions of these two

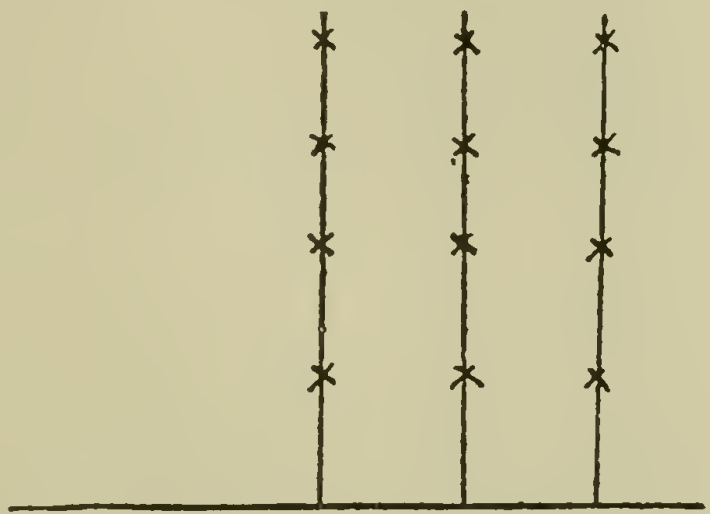


Fig. 24.—Lines marking the Position of Tents.

flags respectively make a continuation of the straight lines *A*—*C* and *A*—*B*, shown in Fig. 23, as seen along the square when held at the point *A*. The lines corresponding with the other two sides of the camp may be found in the same way by using the square as already described at the points marked by the flags at *C* or *B*, when its area will be indicated by four flags forming a true square.

(ii) After the area of the camp is marked out by four flags in the above manner, the position of the tents may be ascertained by stretching one or more lines along the ground in the manner shown in Fig. 24. The tapes will

mark the place where the poles of the tents should rest. A small peg should be driven into the ground at each tape. The line should then be removed, leaving the camp planned out by the flags and pegs. The tents may then be erected.

(iii) **Shape and Size.**—The shape and size of a camp will, subject to the following general rules, be determined by the nature of the ground.

(iv) **Space.**—Units should not be cramped for space more than is absolutely necessary. On the other hand, the dimensions of a camp or bivouac must not be increased unduly, as a straggling camp entails extra fatigue duties and delay in circulating orders.

(v) **Street.**—In large camps, such as those for a brigade or larger numbers, one main centre and one main cross street must run the entire length and breadth of the camp.

(vi) **Interval between Units.**—The usual interval between units is 10 yards. Between the companies of a battalion the interval may be reduced to 3 yards.

(vii) **Interval between Tents.**—The interval between tents will depend upon the size of the ground. A 7-yards interval is sufficient as a minimum. Eight or nine yards may be allowed if space is available, but a maximum of 10 yards between tents should not be exceeded.

(viii) **Latrines and Washing-Places.**—The position of latrines and washing-places should be the first consideration in planning camps. They should be placed on the leeward side of camp. Their position should be concealed from view, and hidden by trees or shrubs if possible. They should also be enclosed by screens, which may be improvised with canvas or sack-cloth, or with hurdles interlaced with branches or undergrowth.

(ix) **Cooking-Places.**—These should, if possible, be in rear of the camp, and as far as possible from the latrines.

(x) **Officers' and N.C.O.'s Mess.**—In camps where a separate mess is organized for officers and non-commissioned officers, space for these messes must be provided by the quartermaster in planning the camp.

(xi) **Notice-Boards and Plan.**—Notice-boards should be put up showing the position of offices, washing-places, refuse-pits, latrines, etc., and a plan of the camp should be on view near the commandant's tent.

(xii) **Precautions against Fire.**—If a camp is pitched in or near long dry grass or heather, special precautions must be taken against fire. If possible, undergrowth should be cleared away from the vicinity of tents.

(xiii) **Inspection.**—Early on the day on which cadets arrive in camp the quartermaster will inspect the camp, and satisfy himself that the tent accommodation is sufficient, and that the arrangements for receiving cadets are quite completed.

Section 29.—Pitching and Striking Tents.

1. General Remarks.—Tents may be pitched when the camp is laid out ready for occupation by troops on arrival in camp. This plan is preferable in wet or uncertain weather, as men are assured of shelter and dry accommodation at the end of their journey. In fine weather, however, tents may be set down by the quartermaster and his assistants in the positions marked for them by pegs when the camp is laid out. Each tent will then be unpacked and pitched by a squad chosen from the cadets told off to it after arrival in camp. When this is done, cadets may be practised in unpacking and pitching tents simultaneously by orders or signals from the commanding officer. In the same way tents may be struck and packed by cadets themselves before they leave camp, or arrangements may be made for striking and packing them after the departure of units.

2. Pitching a Tent.—(i) Tent squads consisting of six men in charge of the senior soldier as leader, will be told off for pitching tents. The leader will first number off the men of his squad from 1 to 6. Their respective duties according to their number is as follows: No. 1, front-rank poleman; No. 2, rear-rank poleman; Nos. 3 and 4, pegmen; Nos. 5 and 6, packers. The packers will perform the duty of unpacking as well as packing the tents.

(ii) The leader will superintend the work of the squad. He will see that the pole is placed on the spot marked for it by the peg, that it is upright, that the door is properly placed as to direction, that the cords are stretched in line with the seams of the tent, and that the slides are made fast at equal distances between the tent and pegs. He will also enforce silence and order while the work is being carried out.

(iii) When the squad is ready to pitch the tent, No 1 will stand with his heels on either side of the peg marking the spot where the tent-pole is to rest, and remove the peg. The rear-rank poleman having joined the two pieces of the pole together, will hand it to the front-rank poleman. The pegmen at the same time will distribute the pegs where they will be at hand when required, and drive in four pegs in the proper positions for holding the front and rear-angled ropes. Nos. 5 and 6 will unpack the tent, and spread it out flat on the ground with the tent door fastened and uppermost, so that it forms a triangle, the base of which should be one pace away from the feet of No. 1, with the apex pointing in the direction of the prevailing wind, which should previously be indicated to the leader of the squad, or towards the tents in the rear.

(iv) The polemen then fit one end of the pole into the cap in the apex of the tent, and place the other end between

the heels of No. 1. The pegmen each take one of the two front-angled ropes, which are not marked in any way, and the two packers each take one of the two rear-angled ropes which are marked *in red* to distinguish them from the others. The leader will then give the command *Raise tents*, when the pole will be elevated by Nos. 1 and 2, the former getting inside the tent to keep the pole in a vertical position and to take care that it rests on the ground in the correct spot. The four angle ropes will then be pegged down by the pegmen and packers to hold the tent in position. No. 2 must take care that the door of the tent faces in the right direction, and that it is still fastened. Finally, the pegmen will peg down the other ropes of the tent, working round from left to right. The leader will take charge of the tent-bag and mallets when the tent is pitched.

3. Tent Doors.—In pitching tents the position of the doors should as a rule face away from the prevailing wind Their position may, however, be changed subsequently, if necessary for any reason.

4. Digging a Trench.—As soon as the tent is pitched, two cadets from each squad will cut drains round the bottom of the tent walls, and heap the earth inside the flap. If necessary, surface drains may be constructed to prevent rain-water lodging in the trenches. In the case of cadet camps the consent of the owner of the land on which the camp is pitched should be obtained before trenches are dug. A hole 6 inches deep may also be dug close to the tent-pole, so that if heavy rain comes on suddenly the tent-pole can be pushed into the hole, and much strain will be taken off the canvas, ropes, and pegs.

5. Driving in Pegs.—Tent-pegs should be driven into the ground as follows: Determine the spot, turn with back to the tent, stoop with peg in left hand and mallet in right, place the peg with point on the ground and the head inclined

outwards at an angle of 45 degrees, give a couple of taps with the mallet, then stand up and give two or three hard blows with the mallet, which in ordinary ground will be sufficient to drive the peg well home.

3. **Striking a Tent.**—No. 1 will get inside the tent, No. 2 will fasten the door, which should not again be unfastened. The pegmen and packers will pull out the pegs except those which hold the front and rear-angled ropes, and pack them in the bag. The pegmen and packers will then take hold of the front and rear-angled ropes, as in para. (iv), p. 124, while the pegs holding them are drawn by No. 2, with the help of the senior cadet if necessary. All pegs will be put into the bag as they are drawn. Finally, the leader will give the command *Strike tents*, when the tent will be lowered backwards and pulled out flat on the ground. The ropes will be rolled up round the slides, and placed so that they will not appear when the tent is folded up, which will be done carefully by the packers. The leader will see that the tent, pegs, and mallets are all closed up in the tent valise. For directions regarding the striking of tents and their return to store at the close of camp, see Sec. 32, para. 3.

Section 30.—Transport.

1. Army transport, other than by rail and water, consists of the mechanical and horse-drawn waggons of the Army Service Corps. If this transport proves insufficient in times of emergency, or is unobtainable, other arrangements are made for the hire of transport of various kinds from public and private sources. The problem of transport for cadet camps or billets depends to a great extent upon local facilities and the funds available. But as a fundamental principle this item of expense should be reduced to a

minimum by selecting suitable accommodation as near as possible to the headquarters of cadet units, reducing equipment to a minimum, and by carrying out the work of transport as far as possible through the cadets themselves with the aid of handcarts or other suitable means.

2. Hire of Transport.—When the transport has to be hired, an officer must be selected to undertake the duty of transport officer. He must obtain from the camp secretary a fairly accurate estimate of the numbers coming to camp, and from the quartermaster an estimate of the camp stores and their weight, for which transport will be required. He must then ascertain what farmers, tradesmen, carriers, or other persons in the neighbourhood are willing to hire out or perhaps lend their carts and horses. He should obtain this information in plenty of time, so that there is no chance of his arrangements for conveyance of the camp equipment and cadets' baggage to the camp falling through. The most likely sources from which to hire transport in the United Kingdom are railway companies, farmers, grocers brewers, and tradesmen whose business necessitates the work of delivery or carrying.

3. Duties of Transport Officer.—Besides those above mentioned the duties of a brigade or camp transport officer are as follows:

(i) He should find out beforehand the time and places of arrival of all battalions, companies, and contingents.

(ii) Arrange for waggons to be present to carry kits, and send details to the officer commanding Army Service Corps, giving the names and numbers of battalions, companies, and contingents, weight of baggage, and times and day of arrival. When civilian transport is hired, he will arrange for the waggons, etc., to meet the trains.

(iii) Arrange with railway companies as to special trains to take cadets away on break up of camp, and settle with the Army Service Corps or owners of hired transport the time

of arrival of transport at camp, and where it should parade.

(iv) Special coloured labels should be issued so that the kits going by the same train should be labelled the same colour.

(v) Arrange with the railway company to send a clerk to camp the day before departure to sell tickets. This saves the congestion which crowds cause at small railway-stations.

(vi) Arrange with the Army Service Corps or owners of hired transport to convey heavy baggage to the station after the cadets have gone.

(vii) If there are any horses for transport purposes in camp, he is responsible for their feeding and grooming, etc.

4. Cost of Hiring Transport.—(i) It is impossible to give particulars regarding cost of hiring transport from private sources in different parts of the Empire if transport cannot be obtained from official sources, as the cost will vary considerably and be influenced by numerous factors. The cost in any locality may, however, be ascertained easily by inquiries. The following estimates give only an approximate rate of hiring in England for certain classes of vehicles, and may vary considerably according to the time of year, the supply of wheeled traffic available for transport in any neighbourhood, and for other reasons.

(ii) When hiring civilian vehicles the contract is generally to carry a certain load. The usual undertaking is to hire a one-horse cart to carry 1 ton, or a pair-horse waggon to carry 2 tons. For transport from place to place the usual arrangement made is to pay *tonnage rate* of about 1s. 6d. per mile per ton carted. In hiring vehicles for camp duties per diem about £1 a day is usually paid for the services of two horses, a driver, and large waggon, while about 10s. a day may be paid for a one-horse van or cart to carry a ton load together with the services of a driver.

5. Table of Loads for Transport.—The table on p. 129, which shows the approximate number of bell-tents and

weight of kits which may be loaded on different classes of trucks, waggons, and carts, both military and civilian, may be of assistance to transport officers in calculating the amount of transport they require.

6. Packing and Loading Equipment.—The following general directions are given for packing equipment on

Description of Transport.	*Number of Bell Tents.**	*Weight of Kits*
Traction, Government—		
3½-ton truck	98	4 tons.
4-ton truck	112	4 tons.
5-ton truck	140	4 tons.
Horse-drawn, Government—		
General service waggon	38	22 cwt.
Forage cart, 2 horses	19	1,200 lbs.
Forage cart, 1 horse	15	1,200 lbs.
Horse-drawn, civilian—		
4-wheeled farmer's waggon, 3 horses	84	3 tons.
2-wheeled farmer's cart, 1 horse ..	28	1,670 lbs.
2-wheeled grocer's hooded cart ..	14	1,120 lbs.
4-wheeled brewer's hooded waggon	56	2 to 2½ tons

various kinds of transport-waggons and carts. As a rule no transport vehicle should be overloaded, especially when bad or heavy roads or long distances have to be traversed, so as to minimize the risk of breakdown or delays, and to avoid unduly exhausting horses. It is the duty of the transport officer to see that transport vehicles are not overloaded.

* When tents are to be carried, the full weight can always be loaded, as they are easily packed, except in wet weather, when the weight may be increased by as much as 25 per cent.

7. General Rules.—Articles which will be required first on unloading equipment should be packed on top of the load. When the vehicle is loaded high ropes should be passed over the contents and made fast to the sides of the vehicle so as to hold the load securely in place. On the march no one except the driver must be on a loaded transport vehicle without the special permission of the transport officer.

8. Waggons and Carts.—When packing a *four-wheeled* waggon the heavy articles should be placed at the bottom covering the back axle as much as possible. When packing a *two-wheeled* cart the heaviest articles should be placed directly over the axle, and the other articles so distributed that the cart will balance as nearly as possible when lifted up by the pole or shafts.

9. Handcarts.—Small light two-wheeled handcarts are suitable for transport for cadet corps when the numbers attending camp are not large, and when the distance to be traversed by road is not long. These carts will necessarily carry light loads, as they are drawn by cadets themselves in frequent relays. They should be loaded on the same principle as two-wheeled carts, and the general rules in para. 7 above should also be observed so far as they are applicable. An increased load may be carried if light, skeleton side, front and rear boards can be added to the cart as a removable superstructure. When this is done drag ropes must be attached to the axles so that a greater number of cadets can assist in pulling. Drag-ropes will in any case be useful in dragging handcarts uphill, and for easing the weight in going downhill.

Section 31.—Journey to and from Camp.

1. If effect can be given to the principle of arranging camps and billets as near headquarters as possible, so that cadets can march part or even the whole way, the journey

should neither take up much time nor involve much expense either for fares or transport. In addition to these important considerations, a short journey is preferable to a long one, because it is less likely to tire cadets at the commencement of their training. Care must be taken in arranging the journey, whatever may be its length or nature, to guard against overtiring cadets.

2. Day of Arrival and Departure.—(i) The best day for the journey to camps or billets will depend upon circumstances, but as a rule cadets should arrive on a Saturday to avoid travelling on Sunday, although arrival on Sunday is preferable to arrival on Monday. If cadets arrive on Saturday they will have plenty of time to settle down and obtain a rest before commencing their training on Monday.

(ii) The day of departure will again depend upon circumstances, particularly the period of time for which cadets can attend for training. If a week is available, cadets may depart on Saturday or Sunday afternoon. If possible, they might break up and depart on Monday morning. As a rule the longer the time which can be spent in training the greater from every point of view will be the benefit to cadets.

3. Entraining and Detraining.—(i) If the journey is made by rail arrangements should be made—in the case of cadet corps by the camp secretary—with the railway company to reserve the necessary accommodation. Coaches to be occupied by cadets should be examined by an officer, accompanied by a railway official, *before* they entrain, to note any deficiencies or damage for which the railway company might otherwise hold cadets responsible at the end of the journey. Carriages should be marked to show the particular units and ranks for which they are reserved. Before entraining, a baggage-guard to look after the baggage on arrival and take it safely to its destination must be detailed.

(ii) During the journey cadets must not leave their carriages without the permission of an officer. Absolute silence must be kept while the train is moving out from or running into stations. On arrival at the end of the railway journey officers will get out and go straight to the coaches occupied by their units. Cadets will not get out of the train till the order to do so is given by the officer commanding. When the order is given cadets will leave the train and fall in in two ranks facing the train. Units will then move out of the station in file, and form up outside the station. If required by the railway authorities, carriages will be examined and any breakages or deficiencies attributable to the cadets will be noted.

4. Baggage-Guard.—On detraining the men detailed as baggage-guard will proceed to unload the baggage, and place it on the transport waggons. Having loaded it up, the baggage-party will follow the remainder of the detachment to camp, marching with the baggage. No cadets must ride in the waggons or place their rifles or equipment in the waggons. The cadet officer or N.C.O. commanding the baggage-party will report its arrival to the commander of his unit. Each unit will have two or more cadets told off as baggage-guard for its own baggage, so that there is no chance of its being mixed up with that of other units.

Section 32.—Arrival in Camp.

1. It is important that cadets should arrive in camp to commence their training comparatively fresh and in good spirits. Care must be taken to avoid bringing them into camp tired or dispirited, more especially in wet or gloomy weather. Care must also be taken to insure that all arrangements made to receive them are completed punctually, so that they can be provided on arrival with refreshment, and allowed time to rest before they undertake the

various fatigue duties necessary for settling down and making themselves comfortable.

2. A certain amount of fatigue duties will, of course, be unavoidable on arrival in camp, but good management should reduce them to a minimum. Finally, the hour of arrival should be fixed to allow a good margin for possible delays, and so as to insure that cadets reach camps or billets fairly early in the afternoon, so that they have plenty of time to settle down. Arrangements for receiving cadets on arrival may be facilitated in the case of billets, if the occupants of houses accommodating cadets would undertake to supply the first meal.

3. First Duties after Arrival. — (i) **Report.** — The commander of each unit, or the captain when a company unit marches into camp as a whole, will report to the adjutant of the battalion to which the unit belongs, or to the camp commandant, that his command and the baggage have arrived.

(ii) **Camp Quartermaster.** — On the arrival of the cadets, the quartermaster will point out and show to the commanding officers the tents to be occupied by their units, the positions of latrines, ablution-places, and where the camp equipment and stores should be drawn. He will also inform them as to the number of cadets required for drawing equipment and stores, and for other duties if necessary.

(iii) **Orders.**—Before dismissal the commander of each unit will point out to cadets the position of the latrines, ablution-places, the tents they are to occupy, and the place where camp equipment and stores will be drawn. He must also read out to them any particular orders which may have been given him by the camp commandant, adjutant, or quartermaster.

(iv) **Tent Squads** will then be told off; the cadets will remove their accoutrements, and put them away in their tents.

(v) **Baggage** will be unloaded.

(vi) **Drawing Equipment and Stores.**—Parties to draw camp equipment, rations, blankets, mattresses, etc., will be told off.

(vii) **Issue of Equipment.**—The quartermaster will issue camp equipment. A cadet officer of each unit will be present at the issue of equipment, and will sign the quartermaster's book for articles received. A cadet officer of each unit will also be present at bed-filling if straw mattresses are used, and will be responsible that all litter is cleared up.

(viii) **Dismiss.**—Cadets will not be dismissed finally till equipment, rations, and stores have been drawn and distributed. Unit commanders will satisfy themselves that their lines are properly arranged before cadets are dismissed.

4. Marching in States.*—As soon after arrival in camp as possible each unit will send in a Marching in State. The greatest care should be taken by all concerned in the compilation of this return, as it is most important for the quartermasters and other staff officers to know the exact numbers in camp.

Section 33.—Return of Equipment.

1. Procedure.—When the camp breaks up, the following procedure will be carried out with respect to the return of camp equipment:

(i) The quartermaster will arrange the hour for the return of the camp equipment.

(ii) All camp equipment on charge to units will be returned by them to the quartermaster's stores. The quartermaster will arrange for its reception at his stores, and will allot a space on which each unit will place its own equipment.

(iii) Unit commanders must attend at the quartermaster's stores until the whole of their camp equipment is returned.

* A specimen Marching in State, both for a company unit and a battalion, will be found in the Appendix.

(iv) Deficiencies noted on return of camp equipment will be charged against the units responsible.

2. General Equipment.—(i) The quartermaster will see that beds, if straw mattresses have been in use, are emptied at the selected place, the straw stacked, and the ground swept clean round the stack.

(ii) Blankets will be rolled in bundles of ten, waterproof sheets in tens, palliasses in twenties, bolsters in twenties, and other articles as most convenient.

3. Tents.—(i) On the day before the return of the camp equipment, tent-bottoms, if used, will be removed from the tents, and neatly piled at a place appointed by the quartermaster.

(ii) On the morning of departure, weather permitting, the tents will be struck and piled at a place appointed by the quartermaster. Tents only should be in the tent valise. The peg-bags, with pegs and mallets, should be made into a separate pile. The poles of the tents should be neatly piled, crossing each other in alternate layers.

(iii) As wet canvas, or even canvas that is damp, cannot be returned to ordnance store, special instructions will be issued by the quartermaster as to whether the tents are to be struck before the cadets leave camp, or whether they are to be left standing.

Section 34.—General Arrangements for Cadet Billets.

1. It is impossible to deal with the arrangements for cadet billets except on very general lines, as these arrangements will have to be adapted by cadet officers to suit very varying conditions. As far as this is possible, the arrangements for camps contained in Secs. 27 to 32 of this chapter may be applied with necessary modifications to the arrangements for billets. For instance, an organization com-

mittee and its secretary should be appointed to make the arrangements which, as regards taking over and returning necessary stores, such as blankets, the transport of equipment and the journey to and from the locality of the billets, will be much the same as in the case of camps. A commandant must also be appointed to command units in billets, with the help of a staff of officers.

2. **Nature of Billets.**—Arrangements may be made for billets with or without subsistence; that is to say, arrangements may be made for food to be supplied in billets, or in the alternative billets will provide merely shelter without food. In the latter case arrangements must be made on the lines laid down for camps for supplying and cooking food, and, if necessary, for a mess-room or tent. In every case the best and most convenient arrangements must be made according to circumstances.

3. **Choice of Billets.**—The secretary, having first obtained particulars of the different units and total numbers for which billets are required, should, if possible, personally inspect and choose the accommodation. He may, if necessary, be accompanied by the quartermaster and an officer from each unit. The secretary must satisfy himself in regard to the sanitary conditions and water-supply of the billets, and also that no case of infectious disease has recently occurred in either the billets or the immediate locality.

4. **Allotment of Billets.**—The secretary and those assisting him will then allot the billets to the various units. Units should be kept together and grouped as far as possible according to the localities from which they come.

5. **General Arrangements.**—The camp secretary and quartermaster will also make arrangements for a guard-room, a sick-inspection room, an alarm post, headquarters, and the addresses or other directions regarding the position of these places, accompanied, if necessary, by a sketch plan

showing their position, should be sent to the officer commanding each unit.

6. Information regarding Billets.—Full details of the address of the billets allotted to each unit, with the number to be accommodated in each, must then be communicated by the secretary to the officer commanding each unit before cadets start. These details should, if necessary, be accompanied by written directions, and a rough sketch clearly showing the position of the billets and the way to them from the route of march or from the railway-station. In addition, the officer from each unit who has assisted in choosing the billet may be told off to meet his unit at the railway-station or a point on the route of march, and act as guide.

7. The officer commanding each unit should see that the officer, N.C.O., or senior cadet in charge of each party of his cadets which is told off to a separate billet, knows the address of the billet, and has a written list of the names of the cadets to be accommodated in the billet, and the number to be accommodated in each room. The officer or cadet in charge of each party in billets should also be informed as to the position of the headquarters, guard-room, sick-inspection room, and alarm post, and should see that every cadet of his party knows the position of these places.

8. Sanitation in Billets.—Besides the precautions taken by the secretary with regard to the sanitary condition of the water-supply in billets and the health of the locality, careful rules must be made to guard the water-supply from the danger of pollution, and, if necessary, the same arrangements as those laid down in Chapter V. must be made for the provision and sanitation of washing-places, latrines, kitchens, etc., and for the disposal of rubbish, refuse, and dirty water. When the same billets are to be used by successive parties of cadets, it is of the

utmost importance that they should be left scrupulously clean.

9. Arrival in Billets.—The owners or persons in charge of billets should be notified by the commanding officer regarding the hour at which cadets will arrive, so that they may be prepared. They should also be notified as to the preparation of refreshments or meals, if these are to be provided by them. The considerations mentioned in connection with camps must be taken into account in deciding the time of arrival in billets. As soon as possible after arrival an officer should visit the cadets of each unit in their billets to inspect the same, see that they are clean, and that the cadets are comfortable, and to deal with complaints or requests. He must read out to the cadets any orders from the commanding officer, and inform them as to places out of bounds and other necessary directions, including the *alarm signal* in case of fire, or when for other reasons cadets are required to fall in at the *alarm post*.

Section 35.—Routine.

1. Value of Routine.—A well-planned and efficient scheme of routine is necessary for the successful organization and management of cadet camps and billets, as well as for satisfactory results in training. Routine is also of great value in the development of character. It will help to inculcate in cadets habits of order, punctuality, discipline, and the sense of responsibility, and will help to make them exact and reliable in the performance of duty. Routine will also help to develop in cadets the power of co-operating faithfully and intelligently with others for a common end under the orders of their leaders.

2. Table of Routine.—It is impossible to lay down a fixed scheme of routine for cadet camps and billets. The routine in the table on p. 139 is suggested as a rough guide to cadet

officers, who must adapt it to suit particular conditions under which their commands are trained. It serves to lay down the general principles of camp training in regard to hours of work, instruction, recreation, and meals upon lines suitable for cadets. The table refers to weekdays only, the routine for Sundays being left for decision by the officers.

3. **Notes on Table of Routine.**—The arrangements in this or any other table of routine may have to be modified both

TABLE OF ROUTINE.

	a.m.
Reveille	6.0.
Issue of tea or cocoa and biscuits ..	6 30.
Saluting the flag	7.0.
Company parade	7.15 to 8.15.
Sick parade	7.30.
Breakfast	8.30.
Inspection of lines by C.O.	9.30.
Instruction	10.15 to 11.0.
Instruction	11.30 to 12.15 p.m.
	p.m.
Dinner	1.0.
Instruction	2.30 to 3.30.
Tea	5.0.
Guard mounting	6.0.
Retreat	7.0.
Officers' dinner	7.30.
First post	9.0.
Last post	9.30.
Lights out	9.45.

as to the hours for meals and other particulars, when this is rendered necessary by the scheme of instruction for the day. For instance, cadets may not return to quarters for dinner at 1 p.m. during field exercises, but take their rations

with them to be eaten when convenient. The hours of first and last post and lights out may have to be altered when cadets are being trained in night operations. Guard mounting may be dispensed with when necessary, and cadets who feel unwell may be ordered to report themselves at once at the hospital tent or sick-inspection room instead of waiting to attend sick parade at definite hours. Routine, in short, to a certain extent must be elastic and capable of modification when necessary.

4. **Morning States.**—Each unit should render a morning state to the adjutant as soon as possible every morning. If the camp is a large one, consisting of more than one battalion, officers commanding will render a morning state to the brigade-major or camp commandant. A specimen morning state will be found in the Appendix.

5. **Saluting the Flag.**—The equipment of every cadet camp should include a National Flag, with a portable flagstaff. The staff should be fixed at a convenient place on the parade ground. Every morning at the company parade, with which the day's work will commence, and on ceremonial occasions, the cadets should be drawn up facing the flagstaff. At a given signal a cadet officer or N. C. O. should break the flag at the head of the staff. When the flag breaks all officers and cadets must stand facing it at the salute. Then at a given signal the cadets should sing one verse of the national anthem, accompanied by the band of the corps if it is provided with one.

6. **Roll-Calls.**—(i) The roll-calls in cadet camps and billets should be decided by the camp commandant. Reveille, breakfast, dinner, tea, and last post are convenient times for roll-calls. In addition, if necessary, a surprise or a check roll-call may be ordered at uncertain periods and hours, as, for instance, between first post and reveille.

The most convenient and efficient form and time of calling the roll and collecting reports is by deputing the orderly officer, accompanied by the battalion orderly, on the second bugle sounding for breakfast and for dinner, to receive reports from the N.C.O. in charge of each mess whether in dining-tents, sleeping-tents or billets, when he goes his rounds to inspect the meal and inquire for complaints.

(ii) The roll-call at reveille could be performed by the battalion orderly in like manner. At present on reveille sounding he usually visits every tent or barrack-room to rouse the occupants, or to see that they have been awakened. At last post the same procedure could be followed, the battalion orderly making a list of absentees by companies, and receive from the company orderly-sergeant at the company orderly-sergeants' tent a list of N.C.O.'s and men on pass. Defaulters and pickets, etc., if necessary, could be paraded at the guard-tent on first post sounding, and be back in their tents for final roll-call.

7. **Bugle Calls.**—(i) Much bugling in camp becomes a nuisance. In large camps, when regular hours for parade are kept, it is best to have one general sounding carried out for the whole brigade from a central position in the camp. If necessary the call can be sounded twice—once towards one flank, and once towards the other flank of the camp. Bugling in cadet camps should be reduced to a minimum. The following calls may be sounded if necessary:

Reveille.	Officers' dinner (dress).
Sick parade.	Officers' dinner.
Breakfasts.	Retreat.
Warning for parades.	First and last posts.
First call—dinners.	Lights out.
Dinners	Ration call (when ordered)

(ii) **Markers and Fall In.**—Such calls as markers and fall in are unnecessary if the discipline in the camp is good, and the cadets are intelligent and punctual. There should be a standing order in each battalion that company markers will fall in under the sergeant-major of the battalion five minutes before the hour ordered for parade, and that the whole battalion should be standing on parade at the hour fixed for parade, companies having been inspected by their company officers in their own lines. If this system is regularly carried out, the adjutant can report the battalion present or otherwise to the commanding officer at the exact moment ordered for parade, and there will be no need for the babel of bugles which generally takes place in large camps unless strict orders are issued to prevent an excessive and unnecessary amount of bugling.

(iii) **Orderly-Sergeants and Corporals.** — Non-commissioned officers acting as sergeant-majors are far too apt to be continually sounding for orderly-sergeants or orderly-corporals. Except when the matter is urgent most of the orders or information which the sergeant-major requires to give out can be issued at detail—*i.e.*, the hour in the day when the orderly-sergeants assemble at his tent to take down battalion orders, and make out the duties for the following day—or he can give out what he wants to on the numerous other occasions when orderly-sergeants are assembled during the day—for instance, before or at the end of a parade, at last post, or before any of the meals. This habit of sounding for orderly sergeants unnecessarily should be checked by the adjutant of the battalion.

8. Duties of Brigade Staff Officers and Non-Commissioned Officers.*—(i) *The following directions regarding the duties of various officers and N.C.O.'s in relation to camp routine contained in this section are set out so as to permit*

* The duties of a brigade or camp transport officer have been dealt with in Sec. 29

of the organization of battalion or even brigade camps, and as a guide to soldiers generally. These rules can, of course, be adapted by cadet officers to the routine of smaller camps, such as company and platoon unit camps. But the method adopted during camp routine is consistent with the scope of this manual, which includes the organization and arrangement of cadet camps for the training of a battalion, or larger numbers, although it favours the smaller company and platoon unit camps as being generally more practicable and convenient.

(ii) **The Brigadier or Camp Commandant.**—(*a*) He is responsible for the maintenance of discipline, efficiency, and proper system in the camp.

(*b*) He will supervise the training of the various battalions or companies, but he will interfere as little as possible with the methods employed by his battalion or company commanders to train their men when carried out on the right lines.

(*c*) He will be held responsible for the return of all Government stores or equipment issued or hired for the use of the camp.

(*d*) He will hold a periodical inspection of the lines, and will particularly concern himself with the sanitation of the camp and the feeding of the cadets.

(*e*) Before the break-up of the camp he should preside at a meeting of staff and officers to discuss matters relating to the camp, and any suggestions for the improvement of the arrangements in succeeding years which may be brought forward.

(iii) **The Brigadier-Major, or Camp Adjutant.** — (*a*) He is the confidential staff officer and assistant to the brigadier or camp commandant.

(*b*) He signs and issues all orders emanating from the brigadier or camp commandant.

(*c*) He details all officers for brigade duties and the battalion on duty for the day.

(*d*) He is responsible for the correctness of the daily state of the camp.

(*e*) On all parades under the brigadier or camp commandant he will place the markers when they are required.

(*f*) He will collect reports from commanders of units on these parades, and himself report the result to the brigadier or camp commandant.

(*g*) He must avoid any interference in battalion matters; if he has reason to consider that anything is wrong, it is his duty to report the same to the brigadier, who will take any action he may consider necessary.

(*h*) He will keep a diary, and assist the brigadier or camp commandant to compile the report on the working of the camp if one is called for after the break-up of the camp.

(iv) **The Brigade or Camp Quartermaster.** — Where a large number of cadets are collected for camp training, it may be advisable to obtain the services of a regular officer as camp or brigade quartermaster. This officer should as a rule be a regimental quartermaster, and his duties would consist of the whole of the administration of the camp, except drill, field instruction, and discipline. The following would come under his orders.

(*a*) Laying out and arrangement of the camp.
(*b*) The feeding of all except officers.
(*c*) Cooking.
(*d*) Distribution of food to battalions.
(*e*) Sanitation.
(*f*) Scavenging.

He will also draw from the Ordnance Stores or contractor the camp equipment required, and return same. In this he will be helped by quartermasters of the battalions, and, if possible, the latter will draw from and return to the Ordnance Stores or contractor the camp equipment for their own battalions.

(v) **Chaplain.**—He is responsible for the spiritual welfare of all in camp. He will arrange the hours of service in consultation with the brigadier. It will be advisable if he is made permanent manager of all musical entertainments, and secretary of the camp sports committee for the organization of amusements generally.

(vi) **Medical Officer.**—The medical officer is responsible to the brigadier or camp commandant for the general health of all in camp. He must keep a very watchful eye over all matters which have to do with the health of cadets and the sanitation of the camp, and report to the brigadier or camp commandant any sanitary irregularities, and advise him generally on these matters.

(vii) **Brigade or Camp Sergeant-Major.**—The brigade or camp sergeant-major is under the orders of the brigade major or camp adjutant. If brigade or camp guards other than battalion guards are mounted, he will detail them and be present when they mount. If there is a staff-sergeants' mess he is responsible to the brigade major or camp adjutant for its proper conduct.

(viii) **The Brigade Quartermaster Sergeant and Sergeant Master Cook** are under the orders of the brigade or camp quartermaster.

9. Duties of Battalion Officers and Non-Commissioned Officers — (i) **Battalion Commander.**—(*a*) The battalion or half-battalion commander is responsible to his brigadier or camp commandant in exactly the same manner as the latter is responsible to his superiors. The feeding and the general care for the health of the men under his command are matters of as much importance as their training. He should make it his business to get to know all the officers of his battalion, and to study their characteristics.

(*b*) He should take particular note of the manner in which the instructors of the different contingents in his

battalion, if it is a mixed one, perform their duties. If he considers that any one of them is lacking in the qualities necessary for the satisfactory performance of his duties, he should bring the matter to the notice of the brigade-major or camp adjutant, who will inform the brigadier or camp commandant.

(*c*) He is responsible for the correct and punctual rendering of all reports and returns called for by the brigade-major or camp adjutant. He should interest himself in the recreation and games of his men, and generally do his utmost to make the time spent in camp instructive and enjoyable for the officers and men under his command.

(ii) **Adjutant.**—(*a*) The adjutant is responsible to the commanding officer for the correct working of all routine details.

(*b*) He should reach camp some hours before the arrival of the contingents which make up the battalion if it is composed of different corps.

(*c*) He should meet or make arrangements for the meeting at the railway-station of all parties or companies which will be in his battalion.

(*d*) He will carefully check all marching in states, and assure himself of their accuracy before the battalion state is forwarded to the headquarter office.

(*e*) He will detail the captain of the day and the subaltern of the day.

(*f*) He will sign all orders issued by the commanding officer.

(*g*) He will endeavour to issue battalion orders as early as possible in the day preceding that to which the orders apply

(*h*) He will mount the daily duties.

(*i*) He should occasionally walk round the sentries, and ascertain if the guard duties are being properly performed.

(*j*) The clerical work in the battalion orderly-room is under his management.

(*k*) All correspondence for the commanding officer from officers in the battalion will be addressed to him.

(*l*) He will accompany the commanding officer on all his inspections. On parades under the commanding officer he will ascertain from the company orderly-sergeants, through the sergeant-major, whether any men are absent without cause, and report accordingly to the commanding officer.

(*m*) He should be up-to-date in his knowledge of the number of sick in the battalion.

(*n*) He will keep a diary of the work done in camp, and note down any information or suggestions which may be of future value.

(*o*) He will check the daily reports from the captain and subaltern of the day.

(iii) **Duties of Battalion Quartermasters.** — (*a*) A quartermaster must regard himself as inspector of nuisances in his lines, see that men know how to dispose of rubbish and refuse, report to the unit commander when necessary; if without effect, to adjutant of battalion.

(*b*) He attends parades of battalion orderlies morning and evening—*i.e.*, before breakfast and tea—marshals them at some convenient spot close to the battalion lines and his own tent, sees that all units are present with bags and dishes, marches them to the store-tent at the right moment, and maintains order there during the issue of the rations

(*c*) Receives from the officer of the day or unit commander any complaints on matters concerning supplies or issue of same, reporting if necessary to the brigade quartermaster.

(*d*) Procures in bulk and distributes all emergency rations, such as biscuits, buns, etc., being careful to find out in good time when they are required, and give notice to brigade quartermaster.

(*e*) He will call attention of unit commanders to any matter which may appear irregular, especially with regard to the cleanliness of the company lines and utensils.

(*f*) He will inspect the latrines and ablution-places daily and report any want of cleanliness to the brigade quartermaster.

(*g*) He will see that no solid matter is thrown into or upon the drains at the ablution-places; that the washing-tubs are kept free from soap or grease, and that land-drains are kept cleared.

(*h*) He will attend all battalion inspections of the camp.

(iv) **Sergeant-Major.**—(*a*) He is responsible to the adjutant that all battalion duties for which N.C.O.'s are detailed are correctly and punctually performed.

(*b*) He will fall in the duties on guard mounting previous to the inspection by the adjutant.

(*c*) He will parade the orderly-sergeants of companies five minutes before the hour fixed for a commanding officer's or adjutant's parade, and collect their reports for the information of the adjutant.

(*d*) He will *cover off* the company markers previous to the companies marching on to parade under the commanding officer or adjutant.

(*e*) He will collect the company orderly-sergeants at a convenient hour during the day, and detail companies to find the men for different duties. To insure the proper working of routine details he must be very particular to keep his roster of duties up to date. If any man is brought before the commanding officer for any reason, he will march him into the commanding officer's presence.

(*f*) He is responsible for the proper conduct of the sergeants' mess, and will preside at the mess meetings.

(*g*) All N.C.O.'s and men when addressing him will stand at attention and say "Sir," but will not salute.

(*h*) He will accompany the commanding officer and adjutant on all inspections when carried out on foot.

(*i*) When the brigade or camp sergeant-major has any

orders to issue, he will represent his battalion and write down the orders.

(*i*) He will parade the company orderly-sergeants at last post parade and collect reports for the orderly-officer, who will also be present to receive them from the sergeant-major.

(v) **Orderly Officers**—*Captain of the Day.**—(*a*) He comes on duty at reveille, remaining on duty till reveille next morning.

(*b*) He will not leave camp, and will wear uniform and a sword-belt, if swords are carried by the unit to which he belongs, during his tour of duty.

(*c*) He will visit the men while at breakfasts and dinners and ascertain that the food is well cooked and sufficient, and the men are tidily and correctly dressed.

(*d*) He will accompany the commanding officer on his morning inspection of the lines.

(*e*) He will turn out the guard, and visit the sentries once by day and once by night. He will ascertain that the guard is present, and that the sentries are properly posted and know their duties.

(*f*) He will visit any of the men of his battalion who may be in hospital.

(*g*) In case of fire or other alarm he will take command of the guards and picket.

(*h*) He will visit the grocery institute, or dry canteen, and the club tent of the camp.

(*i*) He will receive the report of the subaltern of the day on duty with him, and forward it together with his own to the adjutant before 9 a.m. on the day when he comes off duty

(*j*) *Subaltern of the Day.*‡—He is the assistant to the captain of the day.

* In small corps this duty may be performed by any cadet officer

‡ In small cadet corps this duty may be performed by sergeants, platoon or section commanders.

(*k*) He comes on and goes off duty with the captain of the day.

(*l*) He will report himself to the captain of the day on the first available opportunity after reveille.

(*m*) He will attend the captain of the day in all his inspections of the lines and meals.

(*n*) He will turn out the guard and visit the sentries once by day when they are found by day, and once by night at the hours he is ordered to do so by the captain of the day.

(*o*) He will attend the mounting of brigade duties when his battalion finds any.

(*p*) He will attend all issues of rations and inspect the meat, etc. If he considers anything is unfit for issue, he will draw the attention of the quartermaster to the fact.

(*r*) He will attend last post and receive reports from the sergeant-major.

(*s*) He will visit the kitchens, ablution-places, refuse-pits, etc., once during the day, and ascertain that all orders with reference to such places are obeyed.

(*t*) He will hand his report of the performance of his duties as soon after coming off duty as possible to the captain of the week.

(*u*) *Turning out the Guard.*—The captain or subaltern of the day will **not** turn out the guard at the following times:

Within one hour of mounting or dismounting.

Within one hour of the guard being turned out by either the captain or the subaltern.

During the hour following the sounding of the dinners bugle.

Within one hour of retreat, last post, or revellle.

When he turns out the guard, the captain or subaltern of the day will carefully inspect the guard and the guard-tent, as well as visiting the sentries.

(vi) **Battalion Orderly-Sergeant.**—(*a*) He comes on duty at reveille, and goes off duty at reveille on the following day.

(*b*) He parades the company orderly-sergeants half an hour after reveille, ascertains if companies are present, and issues orders concerning the putting out of kits to air.

(*c*) He attends all commanding officer's or adjutant's parades, but falls out as soon as the parade marches off.

(*d*) He parades and marches the morning and evening sick to the hospital tent.

(*e*) He attends the captain and subaltern of the day at all inspections of lines and meals.

(*f*) He parades the company orderly-corporals and tent orderlies for drawing of rations and issue of meals.

(*g*) He is present at sergeant-major's detail hour.

(*h*) He closes the grocery institute or dry canteen, the club tent, and the sergeants' mess at the hour ordered.

(*i*) He attends guard mounting and last post parades.

(*j*) He goes round the battalion camp to see that all lights are put out, and that there is silence immediately *Lights out* is sounded, and reports to the orderly-officer accordingly.

(*k*) He reports to the sergeant-major on completion of duties.

(vii) **Battalion Orderly-Corporal.**—He attends the battalion orderly-sergeant, and assists him in the performance of all the above duties.

10. Duties of Company Officers—(i) **Company Duties.**—The duties of the officer commanding a company or a platoon; of the section commanders; tent commanders, etc., are similar to those of the battalion commander, the camp commandant, or the brigadier. Each one of the above commander is responsible to the one above him for the efficiency and training of his men, the cleanliness of the tents and lines of his command, and for the proper performance of their

respective duties by those under them. It is advisable perhaps to give the duties to be carried out by the following:

(ii) **Company Orderly-Sergeant.***—(*a*) His daily duties, will commence at reveille, and last for twenty-four hours.

(*b*) Immediately after reveille he will go round his company lines and see that all the men rise, find out if there are any absentees, and take the names of any men who wish to report sick.

(*c*) The company orderly-sergeant will report to the battalion orderly-sergeant half an hour after reveille the *state* of his company, and whether there are any men who wish to report sick.

(*d*) If orders are so issued, he will see that all blankets and kits are put outside the tents, and the walls of the tents rolled up.

(*e*) He will be on parade five minutes before the hour ordered for parade, and report to the sergeant-major if the parade is a commanding officer's or adjutant's, and to the company staff-sergeant or senior sergeant if it is a company parade.

(*f*) He must be thoroughly acquainted with the *state* of his company, and know what duty every man is on; or if absent, he must take steps to ascertain the reason for his absence.

(*g*) He will parade tent orderlies, and march them to the kitchens a quarter of an hour before each meal, and to the ration-stand at the hour fixed for drawing rations.

(*h*) He will parade and march the sick to the hospital tents at the hours fixed.

(*i*) He will report his company present or otherwise to the orderly-officer when he visits breakfasts or dinners.

* It will depend on the length of time for which the company is in camp whether this is a weekly or daily duty. It will be best, perhaps, to assume here that the duty will be carried out by a fresh N.C.O. each day.

(*j*) He will attend the sergeant-major's "detail," copy orders, and receive instructions as to the number of men his company is to find for guards, fatigues, etc., on the following day.

(*k*) He will detail the N.C.O. and men for these duties. If there is a company notice-board, it will be sufficient if he puts the list of names for the different duties on the board. If there is no board, he must personally warn all concerned.

(*l*) He will see that all orders are read in the company at some fixed hour.

(*m*) He will call the roll of his company between first and last posts, and report present or otherwise to the sergeant-major at last post staff parade.

(*n*) He will see that all lights are put out in the tents of his company except where extra time is allowed, and reports to the battalion orderly as soon after lights out has sounded as possible.

(iii) **Company Orderly-Corporal.**—The company orderly-corporal is the assistant to the company orderly-sergeant in the above duties.

(iv) **Company Lines and Tents.**—(*a*) Unit commanders are entirely responsible for the cleanliness of the tents and lines occupied by the men in their units.

(*b*) Men on rising each morning will wash, clean their accoutrements, put on their kits in order, and prepare for parade.

(*c*) *Men are not to be permitted to place waste cooked meat, vegetables, and oil rags on the ground in the company lines, or on or under the tent boards.*

(*d*) Jam-jars, butter-dishes, etc., which attract flies to the tents, should be placed under cover in ventilated boxes, which should be supplied to the men in each unit for that purpose.

(*e*) All bedding and uniforms should be exposed to the air outside the tents for at least one hour daily except in wet weather.

(*f*) *A light is never to be left burning in an unoccupied tent.*

(*g*) No officer or man riding a horse or cycle, or driving any vehicle, is to go faster than the pace of a walk inside the camp.

(v) **Non-Commissioned Officers in Charge of Tents.**—(*a*) N.C.O.'s in charge of tents will see that men get up at reveille, and clean and tidy the tent. They will see that tents are clean and tidy by the time for the inspection of the lines, that they are again tidied up after each meal, and débris carried to the refuse and rubbish tubs.

(*b*) That there is silence after lights out.

(*c*) That tent-ropes are slackened each night, and in damp or wet weather.

(*d*) They will be held responsible for the discipline of the tent.

(*e*) They will keep a roll of the men belonging to the tent, and will enter opposite each man's name the number of his rifle and equipment, and they will also keep a roster of the orderly-men. They will also detail a *next for duty*, who will assist the orderly-man when required.

(*f*) No man may change or be changed from the mess or tent to which he is told off without the sanction of the unit commander.

(*g*) No N.C.O. or man is to change his turn, or any part of his turn, without permission from his unit commander.

(*h*) No man is to leave his tent between last post and reveille without permission of the N.C.O. in charge, who will only grant permission for a necessary purpose; a man thus granted permission will report himself to the N.C.O. on his return. If he is away an unnecessarily long time, he will be reported by the tent commander to the unit commander.

(vi) **Tent Orderlies.**—Tent orderlies will perform the following duties:

(*a*) Roll up tent-walls each morning, except in rainy weather.

(*b*) See that the tent-ropes are slackened at night, and in damp and rainy weather.

(*c*) See that the interior of the tent is kept clean and in good order.

(*d*) See that all tent-doors are closed during rainy weather.

(*e*) See that refuse and rubbish are removed from the company lines and placed in the proper receptacles.

(*f*) Draw the groceries from the grocery store. Sacks or other suitable receptacles for the exclusive purpose of carrying bread will be provided by each company or contingent.

(*g*) See that all food is kept under cover to avoid attracting flies.

(*h*) Carry up breakfast, dinner, and tea from the kitchens to the company lines.

(*i*) Wash up plates, etc., after each meal, and see that the tins used for this purpose are left clean.

(*j*) Return camp kettles, etc., to the kitchens immediately after each meal.

(*k*) Take all broken tent-pegs to the battalion quartermaster, who will exchange them for new ones.

(*l*) Keep the company parade-ground clear of all rubbish and litter.

Section 36.—Routine in Cadet Billets.

1. The details of routine in cadet billets must be left to the discretion of officers commanding the units brought together for training, who will adapt them to suit varying conditions. The table on p. 139 will, however, serve as a

rough guide to the principles which should govern the daily routine of cadets in billets. The following points are also mentioned for the guidance of commanding officers:

(i) **Guards and Sentries.**—Guards should under ordinary circumstances be unnecessary when cadets are accommodated in billets. This should also be the case with sentries, especially when cadets are billeted in premises on private ground, as, for instance, in farm buildings. Sentries, however, should be posted when it is necessary or advisable to take precautions to prevent damage to property, such as orchards or hay-stacks.

(ii) **Pickets.**—When cadets are billeted in towns or villages, a small picket may be necessary to patrol the streets for some time after lock-up to see that no cadets are out.

(iii) **Alarm Post.**—A central alarm post, or place of assembly, should be arranged for each platoon, or company, in case of emergency.

(iv) **Fire.**—In case of a fire in or near billets, platoons or companies should fall in at once at their place of assembly, and the officer in command should offer the services of the cadets to assist the police in keeping back a crowd, passing buckets, or giving help in other ways.

(v) **Orders.**—When cadets are billeted in separate houses, one cadet from each house should meet the orderly N.C.O. or officer at a certain time each evening at some special place to receive orders for the morning, which should be in writing, or taken down in writing for transmission to those concerned.

(vi) **Lock-up.**—Cadets should be confined to their houses after a certain hour, and the company orderly-sergeant should go round and ascertain if they are all present by roll-call.

(vii) **Lights Out.**—When cadets are billeted together in the same building in considerable numbers, the order *Lights out* should be sounded at a given time. In

other cases the N.C.O. or senior cadet in command of a group of cadets should be made responsible for seeing that lights are out at a certain hour without the order being sounded.

(viii) **Rounds.**—The platoon or company commander should visit the billets of his command every day, and see that the cadets keep their rooms clean. He should occasionally enquire from the owners of billets if the conduct of the cadets is satisfactory.

(ix) **Meals.**—It may be possible to arrange for meals to be provided for cadets in billets. If this is not possible, meals may be cooked and served in some central position where kitchens and accommodation for messing must be provided.

(x) **Conduct.**—The necessity for good conduct, politeness, consideration and respect for property, on the part of cadets towards all with whom they come in contact, and more especially towards those in whose premises they are billeted, has already been emphasized. Cadet officers and N.C.O.'s must exercise vigilance over the conduct of cadets, and serious misbehaviour should be punished by instant dismissal from the camp.

Section 37.—Grocery Store, Canteen, and Refreshment Tent.

1. Groceries.—Groceries are only issued as a free ration in war. In peace they are purchased by each unit from a messing allowance, supplemented in some cases by canteen grants—namely, the profits of the regimental canteen run by the unit contractor or regimental management.

2. Cadet Grocery Store.—The supply of groceries for cadet units in camp will be arranged for by the organizing Committee. If groceries are to be issued daily to cadets from a camp grocery store or tent, unit commanders early in the morning after arrival in camp will render a return

to the quartermaster showing the number in mess. Servants and grooms will be shown separately. From this return issues will be made daily. Unit commanders will notify to the quartermaster at once any change in numbers.

3. Issue of Groceries.—(i) Arrangements for the issue of groceries will be made by the quartermaster. Should the scale of issues be insufficient, a further issue will be made. A record of such extras will be kept, and a charge made against the unit to whom they are issued, which will be additional to the general account. Such extra charges will be defrayed by individual units.

(ii) The following procedure will be observed when issues are made at the grocery store: Unit commanders will arrange for ration parties, consisting of sufficient cadets to carry the stores, to be marched to the grocery store for this purpose. If the party is too large, the extra cadets are in the way, and if the party is too small, delay in making the issue is caused. Each party should bring a clean *sack* for bread, which will be used exclusively for this purpose; and also *plates* for carrying butter, and *tins* for jam, sugar, etc.

(iii) On arrival at the grocery store, the ration party will halt and remain in the ranks. When orders are given for the issue to proceed. each party will enter the store quietly, take away the issues, and leave the store-tent by the proper exit. In doing this, cadets will remain silent. The instructor of each unit should attend the first three issues and assist in organizing these arrangements.

4. Cadet Canteens.—(i) If the rations supplied to cadets are sufficiently ample and varied, it should not be necessary to supplement them with purchases of food and drink. In any case this habit should be discountenanced among cadets, firstly on the ground of health, and secondly on the ground of unnecessary expense. The question of a

canteen in camp is, however, one for the decision of commanding officers, and if it is desired to provide one, the necessary arrangements should be carried out by the organizing committee.

(ii) The committee should make strict rules regarding the articles to be sold at the canteen, and the prices at which they are to be sold. No tobacco or alcoholic liquor in any form should be supplied to cadets, and articles procurable should be limited to fruit in season, biscuits, wholesome confectionery, aerated waters, and, if possible, tea and coffee.

(iii) Profits should be devoted to defraying the expenses of camp or be given to the prize fund. A cadet officer or N.C.O. should be on duty at the canteen during the hours at which it is open. These may be limited to half an hour or an hour after the midday meal and after tea.

5. Refreshment Tent.—A refreshment tent may, at the discretion of commanding officers, be pitched in a convenient place, and be open to cadets for refreshment on return to camp after field exercises, after parades on hot days, and during the hours devoted to prize competitions, athletic sports, concerts, etc.

Section 38.—Messing.

1. Arrangements for Messing.—By far the best solution of the problem of messing in cadet camps will be for the organizing committee to make arrangements with a local contractor for an inclusive charge per head to do all catering, and to provide tents, furniture and equipment, including cutlery and china, for messing for cadet officers and N.C.O.'s as well as for cadets. For the sake of economy, all unnecessary equipment should be done away with. Thus tables, tablecloths, chairs or benches may be dispensed with, meals being eaten on the ground. Cutlery

may be dispensed with if the personal equipment of each cadet includes a spoon, knife and fork. Cooks and kitchens with necessary equipment, will, under such an arrangement, be provided by the contractor, meals being served by cadet mess orderlies, or direct to cadets, as described in the following paragraphs.

2. It will be an advantage if cadet officers and N.C.O.'s have the same meals as cadets under the same conditions of rigid simplicity, but this is a question for the commanding officer to decide. If cadet officers and N.C.O.'s have separate messes, space will be set aside for them by the quartermaster in planning the camp, and separate arrangements will be made for the catering for these messes. When cadets are quartered in billets, arrangements may be made for them to have their meals in the billets, or a contract may be made with a local victualler to provide meals and messing accommodation. Under this arrangement early morning coffee may be prepared by cadets themselves in their billets.

3. **Serving Meals.**—(i) A convenient number for a mess is twelve. Meals may be eaten by cadets out of doors or in their tents; but the best arrangement, when possible, is for meals to be eaten in a mess-tent or dining-room. *The officer of the day is responsible for seeing that food is properly cooked and punctually served, and he must supervise these duties.* Food may be distributed in *camp kettles* or *mess-tins.*

(ii) In the former case meals are issued by the cooks at the camp kitchen. Representatives or mess orderlies of units should carry them and serve them to their messes. In the latter case cadets parade in line with their mess-tins at the kitchen, and the cook serves out his round to each cadet. Food may also be brought by the cooks and orderlies to the mess-tent or dining-room and served out there to mess orderlies or to each cadet direct.

4. Absentees.—The officer of the day will make out a list of absentees at meals and arrange for their food to be kept hot by the cook who is responsible for the meal of each man. A list of absentees may be posted on the camp notice-board.

5. Refuse.—After meals cadets will parade on an order with their mess-tins, march to the camp refuse-pit, empty the remains of their meals into the pit, march to the washing-place and thoroughly wash their mess-tins. These duties will be carried out under the supervision of an officer. A N.C.O. should be stationed at the washing-place to supervise the cleaning of mess-tins. Alternatively, mess orderlies may carry out the duties of emptying and washing out mess-tins.

CHAPTER VII

RATIONS AND COOKING

Section 39.—Inspection of Rations.

1. It is a matter of paramount necessity that the soldier's food should be looked after carefully, and this duty should be carried out by officers who, besides seeing that food is cooked properly and served punctually, should inspect rations, to see that they are delivered according to contract, and are fresh and wholesome.

2. Meat Inspection.—(i) Meat, both beef and mutton, is judged in conjunction with the terms of the current contract, a copy of which should be hung up in every meat store, as regards its age, sex, quality, sweetness, and dressing.

(ii) **Quality.**—(*a*) *Beef.*—A carcass should be healthy and well-fed, and should externally have a well-rounded, well-filled appearance. There should be waves of fat on the chest cavity, and plenty of fat on the pelvic cavity and kidneys; the lean, when freshly-cut, should be soft and silky to the touch, full of juice, bright cherry-red in colour, and well-marbled with fat. The fat itself should be moderately abundant, and usually of a pale straw colour.

The internal organs should be sound and free from disease, and there should be no signs of tuberculous growth or adhesion in the chest and abdominal cavities.

(*b*) *Mutton.*—A carcass of mutton should be well-fed and healthy, and should be "mackerel-backed"—*i.e.*, should have alternate red and white bars over the loins. The fat should be fairly abundant, firm, and white.

The flesh should present the same general characteristics

as that of beef, except that the " marbling " of fat is seldom present.

(iii) **Sweetness.** — To decide whether meat is sweet or tainted, the senses of taste and smell must be employed. Fresh meat is slightly acid to the taste, while stale meat is distinctly alkaline.

If there is any doubt, the meat should be probed at its thickest portion with a clean *wooden* skewer, well thrust in, if possible close to a bone, and the skewer quickly withdrawn and smelt. In beef, the best place to probe a fore and hind quarter is at the chuck rib and pelvic bone respectively; while a carcass of mutton should be cut down between the hind-legs, separating the two portions of the pelvic bone.

(iv) **Frozen Meat.**—The meat is cold to the touch, and particles of ice may be seen on cutting into it with a saw. Its colour is not so bright as that of home-killed meat.

When still frozen, the carcass has externally a white appearance; the fat is also white, distinct from the lean, and rather crumbly. There are generally signs of rough handling, and the outside is dirty and untidy.

When thawed, the meat looks sodden, the fat is discoloured, and the exterior of the carcass sweats considerably.

In carcasses of frozen mutton the forelegs are invariably bent towards the body, and as much of the pizzle as can be cut away from the outside is removed. The conditions of contract as regards dressing do not apply to frozen meat.

(v) **Tinned Food.**—For inspection of tinned food, see Sec. 18, para. 28.

3. Judging Bread.—(i) The bread supplied must be sweet, well made, properly baked, and of the description or quality known as " best household," made from flour clean and free from grit, the produce of good sound, sweet and dry wheat. It must be in all respects as good in quality as the best plain or fine bread—as distinguished from fancy

bread—usually sold by the trade as "best household bread," with which it must frequently be compared. The bread must be delivered not earlier than twenty-four hours, nor later than forty-eight hours, after baking, and the loaves must weigh 2 pounds *at the time of issue.*

(ii) The main characteristics of a good loaf, fulfilling the conditions enumerated above, are as follows: The crust should be a rich yellowish-brown, well-baked, but not burnt, as thin as possible, and distributed all round the loaf. The crumb should be cream-white in colour, light, flaky, elastic, and full of small, evenly distributed cavities. In tasting a loaf, the crumb should always be eaten. Several loaves should be selected from different parts of a consignment of bread, and each weighed singly.

4. Judging Vegetables.—Potatoes are difficult to judge from outward appearance. If a part of the potato is greenish in colour, it indicates that it has been insufficiently earthed, and will go soft and dark in cooking. Carrots and parsnips should be firm, and when cut full of natural moisture; the longer they are out of the ground, the drier they become. If delivered with the tops on, the condition of the tops will prove a fair index to their freshness. Turnips, when cut through, should present a uniform whiteness; if the centre has shrunk they will cook "pithy." Pale brown coloured turnips should be rejected for boiling, as they are invariably strong and "woody," and are only suitable for flavouring. The only test as to the freshness of green vegetables is their condition, and this is summed up in practically the one word, *crisp.*

Section 40.—Cadet Rations and Diet.

1. The following notes are meant as a guide to cadet officers regarding the management of rations and the important question of diet. The estimates given as to the

cost of diet will also help them to check the charges of contractors, and to make good and economical arrangements for messing.

2. **Daily Rations.**—It is considered that the daily ration for each cadet should consist of ¾ pound of meat, including a proportion of bone, and 1 pound of bread. When contracts are made for the supply of bread and meat, a saving will be effected if meat is purchased by the whole carcass, should the number of cadets in camp be large enough to make this procedure desirable.

3. **Management of Rations.**—(i) **Meat Ration.**—The meat ration requires careful management to prevent waste. The cutting up of the ration meat should be carried out carefully, the joints and pieces suitable for roasting being first selected. The remainder of the meat after the removal of bone should be used for stews and pies, etc., and the bones placed in the stock-pot. It is not necessary that each cadet should consume the whole of his meat ration at the midday meal. The amount saved will be sufficient to enable steaks or rissoles to be issued for breakfast on at least two days in the week.

(ii) **Bread Ration.**—Equal care is necessary in the management of the bread ration. It will be found advisable to slice the bread and allow each cadet as much as he requires at each meal. In this way it is very probable that a considerable saving will be effected, which can be used up in the preparation of puddings and other dishes.

(iii) **Groceries and Vegetables.**—In addition to the bread and meat, it will be necessary to purchase such articles as tea, milk, sugar, jam, fish, etc., required for breakfast and tea, as well as vegetables, flour, etc., for dinner, in addition to the meat. The daily cost of these per cadet will, it is estimated, amount to about 6d., and thus the total daily cost of food per cadet may be regarded as a permanent charge of about 1s. during the period he is in camp.

(iv) **Oven Accommodation.**—It will be neither necessary nor desirable to erect enough ovens to cook dinners for the whole number of cadets in camp. If sufficient oven accommodation is provided to meet the requirements of half the cadets, the remainder can be given dishes prepared in camp-kettles, and no disadvantage will accrue from this method, since only about half the meat on a carcass—namely, the prime joints—is suitable for roasting.

(v) **Messing Arrangements.**—It is therefore advisable, as far as messing arrangements are concerned, to divide the total number of cadets into two equal halves—the right half and the left half. It should then be arranged that the right half receive a bake every other day, while stews or meat puddings are served out to the left half on the days the right half have bakes. By this means not only will the utensils and appliances be utilized economically, but the problem of the fair distribution of the prime and coarser joints will be solved.

4. Diet.—The diet of cadets in camp should consist of three meals:

Breakfast, consisting of tea, coffee, or cocoa, bread, butter, with fish, sausage, eggs or bacon, etc.

Dinner, consisting of meat, potatoes, and pudding, with the addition occasionally of soup or a green vegetable.

Tea, consisting of tea or cocoa, bread, butter, and jam, cheese or cake, etc.

In addition to the above, an early morning issue of tea or coffee, with biscuits, should be made when necessary. A specimen diet sheet for one week is shown on pp. 167, 168.

5. Diet-Sheets.—(i) When compiling a diet sheet the following points should be observed:

(*a*) The diet must be good and varied. No dish is to be served more than twice during the week.

(*b*) No two dishes containing the same ingredients should be served at one meal—for example, meat pudding, with a

RIGHT HALF.

	Early Morning.	*Breakfast.*	*Dinner.*	*Tea.*
Sunday	—	Tea. Bread-and-butter. Marmalade.	Baked meat. Potatoes. Cabbage. Tapioca pudding.	Tea. Bread-and-butter. Cake.
Monday	Coffee and biscuits.	Tea. Bread-and-butter. Rissoles.	Soup. Sea-pie. Stewed prunes. Rice.	Tea. Bread-and-butter. Jam.
Tuesday	Cocoa and cake.	Coffee. Bread-and-butter. Fried fish.	Roast mutton and baked potatoes. Irish stew. Apple tart.	Tea. Bread-and-butter. Salad.
Wednesday	Coffee and biscuits.	Tea. Bread-and-butter. Liver and onions.	Soup. Tomato stew. Boiled potatoes. Date pudding.	Tea. Bread-and-butter. Cake.
Thursday	Cocoa and cake.	Tea. Bread-and-butter. Bacon and tomatoes.	Roast beef. Boiled potatoes. Stewed figs and rice.	Tea. Bread-and-butter. Jam.
Friday	Tea and biscuits.	Coffee. Bread-and-butter. Stewed haddock.	Soup. Curry stew. Potatoes. Bread-and-butter pudding.	Tea. Bread-and-butter. Marmalade.
Saturday	Cocoa and cake.	Tea. Bread-and-butter. Bacon and tomatoes.	Roast beef. Boiled potatoes. Plum pudding.	Tea. Bread-and-butter. Bloater paste.

LEFT HALF.

	Early Morning.	*Breakfast.*	*Dinner.*	*Tea.*
Sunday	—	Tea. Bread-and-butter. Rissoles.	Soup. Sea-pie. Stewed prunes and rice.	Tea. Bread-and-butter. Jam.
Monday	Cocoa and cake.	Coffee. Bread-and-butter. Fried fish.	Roast mutton and baked potatoes. Irish stew. Apple tart.	Tea. Bread-and-butter Salad.
Tuesday	Coffee and biscuits.	Tea. Bread-and-butter. Liver and onions.	Soup. Tomato stew. Boiled potatoes. Date pudding.	Tea. Bread-and butter. Cake.
Wednesday	Cocoa and cake.	Tea. Bread-and-butter. Bacon and tomatoes.	Roast beef. Boiled potatoes. Stewed figs and rice.	Tea. Bread-and-butter Jam.
Thursday	Tea and biscuits.	Coffee. Bread-and-butter. Stewed haddock.	Soup. Curry stew. Potatoes. Bread-and-butter pudding.	Tea. Bread-and-butter. Marmalade.
Friday	Cocoa and cake.	Tea. Bread-and-butter. Bacon and tomatoes.	Roast beef. Boiled potatoes. Plum pudding.	Tea. Bread-and butter. Bloater paste.
Saturday	Coffee and biscuits.	Tea. Bread-and-butter. Marmalade.	Meat pudding. Potatoes.	Tea. Bread-and-butter. Cake.

sweet made of flour or curry and rice, with stewed prunes and rice.

(*c*) The price of materials and the money available must be considered, together with the tastes of the cadets and the time when various articles of food are in season. Steps should also be taken to discover if the diet provided is liked.

6. Profits from Refuse.—(i) Due care should be taken by those responsible to save bread whenever possible, as well as any meat which may not be required for issue at dinner, and which consequently would be available for issue at breakfast the next day. A useful addition to the messing funds may also be secured by the sale of refuse, bones, etc. The manner of disposing of the refuse for the best value will vary according to local conditions, but it will always be possible to ascertain the best price which can be obtained.

(ii) The refuse-tub is thus an important feature in the economical management of messing. There is also no better index of the accuracy or otherwise of estimates regarding the quantity of food and materials provided, and the popularity of the food. If there is a large amount of refuse it indicates waste, the reason of which is probably that too much food is provided. It may also mean that the food is badly cooked or unpopular, and in any case an immediate investigation and rectification of the cause is advisable.

Section **41.**—Cooking.

1. Officers commanding are responsible that there are a certain number of men in each company who have been instructed in the cutting up of meat, making field-kitchens, and cooking. The sergeant-cook is specially trained for the purpose of instructing men in these duties. *To cook rapidly and well is an art which can be easily acquired, and which every soldier should learn.* Full information regarding

field itchens and cooking is contained in the *Manual of Military Cooking*. In the following paragraphs directions are given for cooking in mess-tins and without utensils.

2 It is especially useful that men and cadets should know how to cook various articles of food in their service mess-tins, which are so designed that, besides serving as a cup or dish and plate to eat from, they can also be used to cook certain rations in the same manner as in the camp-kettle of the field-kitchen.

3. **Cooking in Mess-Tins.**—The capacity of the mess-tin is 1 quart, and it will cook sufficient food for one person if the diet consists of meat and vegetables cooked together, as in the case of Irish stew or sea-pie. Variety in diet is both essential and desirable, and it can be obtained to some extent when cooking in mess-tins by dividing up the rations of, say, two men, so that one mess-tin is used for cooking their meat, and another mess-tin is used for cooking their vegetables. It will be possible in this manner to vary the food slightly, provided such dishes as meat puddings, plain stews, stewed steak, or curry and rice, are given. When this is done, the front-rank men prepare the meat, and the rear-rank men prepare the vegetables.

4. **Method of Instruction.**—Men may be instructed in cooking in mess-tins according to the following directions: They must be drawn up in open order, properly equipped as for a march. Their water-bottles must be filled with water. Their mess-tins must be strapped on them, containing their rations, the meat being stripped from the bone and cut into portions together with vegetables. Condiments for each group of eight men may be served out to, and carried by, one cadet.

5. It should then be supposed that they are to halt on arrival at a rendezvous. Arms should be piled in the usual way, and the men ordered to unstrap each other's mess-tins. This being done, they should be moved either to the

right or left, a sufficient distance to clear the arms. The ranks should remain in open order, made to turn inwards, and the men ordered to sit down and commence the preparation of their food.

6. When the dishes are ready for cooking, the mess-tins of each group of eight men should be placed in the centre of the group. Orderlies should be told off to collect fuel, which, whenever possible, should be that obtainable in the vicinity of the kitchens. A small quantity of fuel will suffice for each set of mess-tins, a good draught being the object to be kept in view. The tins should be well greased on the outside before being placed on the fire. If this is done, and they are cleaned soon after being used, they will suffer no damage. The tins when they are hot can be cleaned in a few minutes with turf, soil, or rag.

7. Kitchens, or groups of mess-tins, should then be formed by arranging the tins in the manner shown in Fig. 25, with the opening facing the direction of the wind. In being placed in position for cooking, the handle of each mess-tin must be kept on the outside. It will not be necessary to dig trenches. The distance between the various kitchens formed in the manner described should not be less than 3 feet, which allows an interval of 9 feet between companies; but if space is limited the cooking may be done with 2 feet between the kitchens and 6 feet between the companies.

8. Each man must be made to prepare his own dinner, but when the kitchens have been formed and the fires lighted, one cadet only in each group of eight should remain in charge of each kitchen. He must change the position of tins frequently during cooking to ensure an even heat, otherwise the contents of the mess-tins nearest the fire will cook more quickly than the others. The man in charge of each kitchen must also frequently inspect the contents of the mess-tins to see how the cooking is progressing, and should stir them before replacing them on the fire.

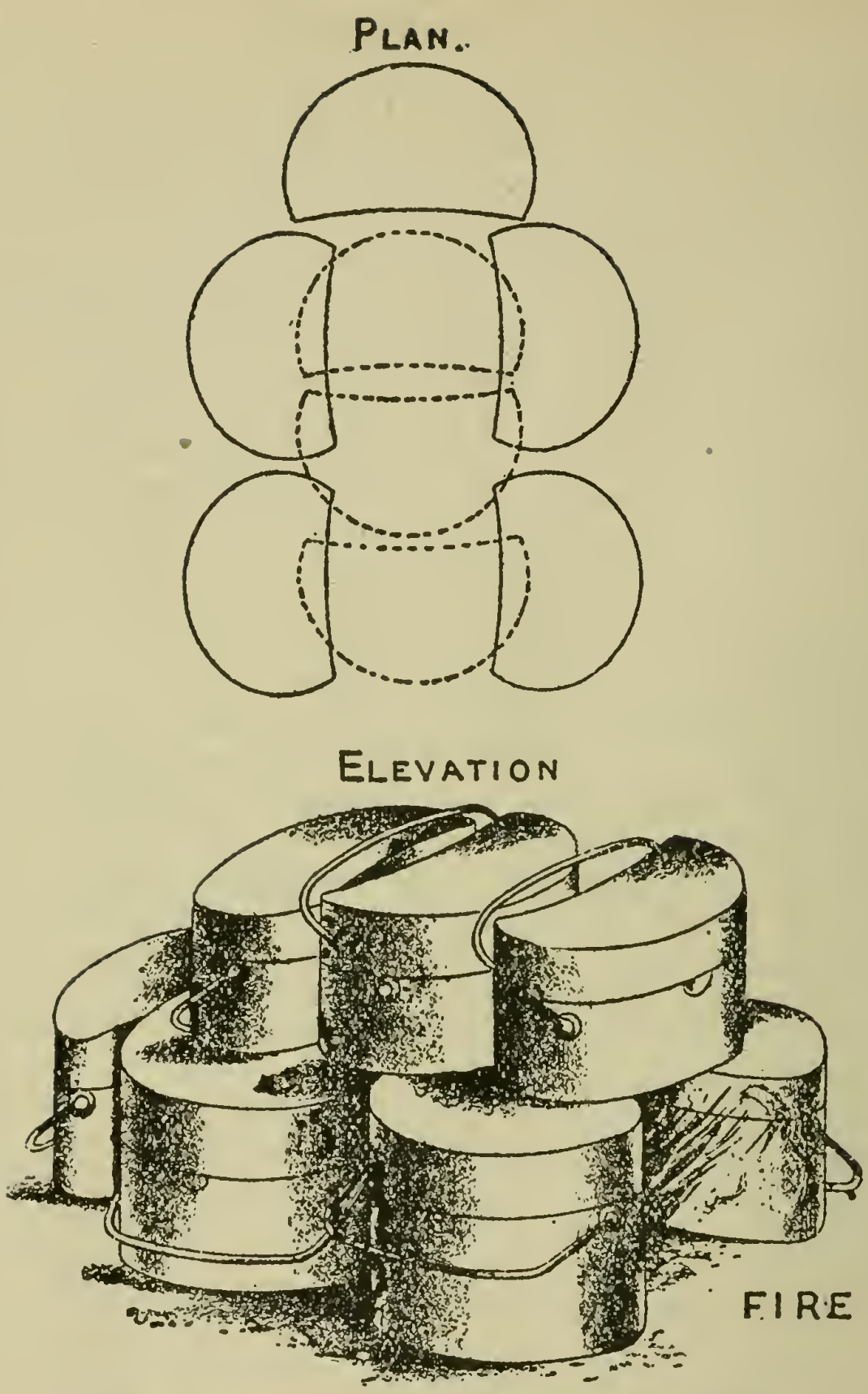


Fig. 25.—Arrangement of Mess-Tins for Cooking.

9. When the food is cooked and the order to serve out dinners is given, the men will form up in groups to receive their mess-tins from the man in charge of the kitchen. When the rations of two cadets are cooked in separate tins, the rations will be shared between them immediately the mess-tins are served out, and before they commence their dinner.

10. Recipes for Cooking in Mess-Tins.—The following recipes are suitable for cooking in mess-tins:

(i) **Sea-Pie.**—With this dish the whole of the ingredients for the dinner are cooked in the one mess-tin, each man preparing his own food entirely. The meat should be cut up into cubes about $\frac{1}{4}$ inch square, the onions and vegetables as small as possible, the potatoes into cubes about the size of walnuts. Season with salt and pepper, mix well together, add enough water to just cover, and make the paste in the following manner:

Place about 3 ounces of flour, a pinch of salt, and 1 ounce of chopped suet or finely-shredded dripping, into the lid of the mess-tin, add a little cold water, and mix up into a stiff and rather dry paste. Press the paste out into the lid until it is of equal thickness all over. This will form it into the shape necessary for covering the meat, etc. Place it on, make a hole in the centre of the paste, fit in lid of the tin, and cook gently.

(ii) **Irish Stew.**—This is another dinner in which all the ingredients are prepared by one man in one mess-tin. Prepare meat, onions, and potatoes, as for sea-pie. Season with salt and pepper, cover with water, and allow to simmer gently.

(iii) **Plain Stew.**—In this case one man prepares two rations of meat—his own and that of his rear-rank man. The rear-rank man prepares the onions and vegetables, and passes it to the front-rank man, who adds them to the meat, together with a little flour, salt, and pepper. The rear-

rank man then prepares the potatoes for himself and his front-rank man, and places them in the mess-tin, with sufficient water and a pinch of salt. Thus, in a kitchen of eight mess-tins there would be four mess-tins containing meat and four containing potatoes.

(iv) **Meat Pudding.**—Prepared as for sea-pie, but omitting the vegetables and potatoes, using 4 ounces of flour for paste, and cooking two rations of meat in one mess-tin and two rations of potatoes in another.

11. Beverages.—The following beverages will be found useful for cadets in camp and on the march:

(i) **Barley-Water.**—Two ounces of pearl barley boiled in 1 quart of water for twenty minutes, and afterwards allowed to stand until it becomes cold; it must then be strained through a sieve into a jug, and a small piece of lemon-peel added.

(ii) **Toast and Water.**—Boil 1 quart of water, and pour it on a good-sized piece of crumb of bread which has been well toasted before a clear fire until it becomes nearly crisp and of a dark brown colour. Allow this to steep for half an hour; it is then ready.

(iii) **Sugar-Water.**—To 1 pint of cold spring water add 1 ounce of lump-sugar and a tablespoonful of orange-flower water; mix. This is a very refreshing drink in summer, and is besides perfectly harmless.

(iv) **Lemonade.**—After removing the ends, cut the lemons into slices; place the slices in a jug, pour on some boiling water, sweeten to taste, and allow to cool. If required afterwards, pour some into a glass, and stir in a pinch of bicarbonate of soda.

12. Cooking without Utensils.—(i) Light a fire. Take a piece of meat or fish, sprinkle with pepper and salt. Wrap in paper or clean grass or leaves. Mix some clay fairly stiff, and flatten it out. Cover the meat with the clay, being careful that it is well covered and that the edges are securely

fastened. Clear a space in the centre of the fire, leaving some embers in the ground. Place the clay mould in the hollow, cover with the burning fuel, and allow it to cook until the clay is hard. The time taken depends on the thickness of the meat. As a rule a pigeon, chicken, or rabbit, takes about one and a half hours. The fire should not be allowed to become too hot. With birds the entrails need only be drawn; the feathers can remain during the cooking. On breaking the seal of clay the feathers will become detached from the meat. Fresh-water fish, such as trout, pike, etc., are very good cooked in this manner.

(ii) **An Alternative Method.**—Make a fairly large fire, cut some thin strips of meat and fat, dust with salt, skewer the pieces of fat and meat alternately on a piece of wire or wood. When the fire has become fairly clear and free from smoke, hold the piece of meat over it and grill until it is done.

APPENDIX

MENDING, CLEANING, AND WASHING CLOTHES.

1. To Sew on a Button. — (i) **Linen Buttons on Underclothing.** Take a strong needle (No. 5), and thread it with a long thread of cotton (No. 30). Draw the cotton through the needle until the ends are even, and then make a knot at the end of the thread by winding it twice round the finger and slipping the needle through the loops thus formed. For white and light underclothing use white cotton, for dark material use cotton of a shade to match the material as nearly as possible. Fasten the thread in with a stitch or two at the place where the button is to be. Next bring the needle out through the middle of the button and make eight stitches, diverging like a star, from the centre (see Fig. 28).

Fig. 28.—Method of Sewing on a Linen Button.

This done, bring the needle out between the stuff and the button, twist the cotton six or seven times round the button, and then push the needle through to the wrong side of the material, and fasten off by taking three or four stitches in the same place under the centre of the button.

(ii) **Buttons with Holes or Shanks.**—Follow the same procedure as before, but bring the thread through one hole in the button, and pass it back through the opposite hole, continuing this six or seven times before winding the thread round the button to finish off. If there are four holes in the button, pass the thread through one hole, then back through the opposite hole; next bring it to the top through a third hole, and then pass it back through the hole opposite to this, continuing this several times before fastening off as before. The thread will then form a cross on the button. For buttons with shanks, pass the thread through the shank, and then through the material ten or twelve times, and then fasten off.

(iii) If the button-hole for which the button is intended be

made of thick material, it is advisable to make a neck to the button in the following manner: Proceed to sew on the button in the manner described, first placing a large pin between the button and the material. Before fastening off withdraw the pin, and wind the thread several times round the slack threads left between the material and button. The space thus formed will allow for the thickness of the material.

2. To Darn Socks.—All darns should be made on the wrong side of the material, so turn the sock inside out before proceeding to mend it. Take a good-sized darning-needle, and black or coloured wool to match the sock. Put the left hand inside the sock, holding the sock so that the place to be mended is stretched taut across the hand. The longitudinal or warp threads must be made first. To do this, run the needle in and out of the material from about ½ inch above the hole to about ½ inch below it, drawing the wool straight across the damaged part (Fig. 29) Having completed the warp threads, which should stretch a little beyond each side of the hole, turn the work round and proceed to do the same in the opposite direction to form the woof threads, this time passing the needle over and under each alternate warp thread (Fig. 30). The darn when completed should form a square, and the threads should lie so close together that the darn should replace the original web. Figs. 29 and 30 show the threads well apart for the sake of clearness only. Do not draw the wool tightly when running the stitches backwards and forwards, and be careful to leave a small loop each time a turn is made to allow for the shrinking of the wool in washing, so that it will not pull the darn together and make a hard lump, which would cause a blister on the foot.

3. To remove Stains from Uniforms.—(i) First brush the stained garment thoroughly before proceeding to remove the stain. Then wet a cloth-ball, allowing it to soak for a minute or two in water, preferably hot, rub the stain with this until a lather is produced, then wipe off all the lather with a cloth wrung out in cold water. If a cloth-ball is not available, rub the stain with a clean cloth dipped in a strong solution of water and ammonia. Stains may be frequently removed with soap and warm water, but the soap must be well sponged out, or a white mark will be left on the material.

(ii) Petrol and benzene will remove nearly all stains, but their

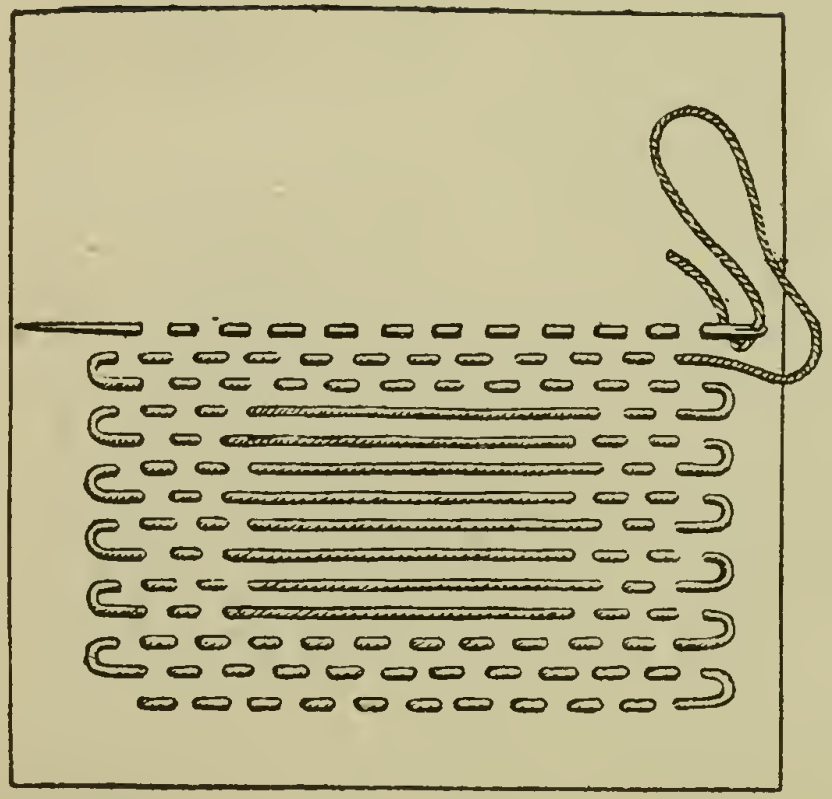


Fig. 29.— Method of making Warp Threads.

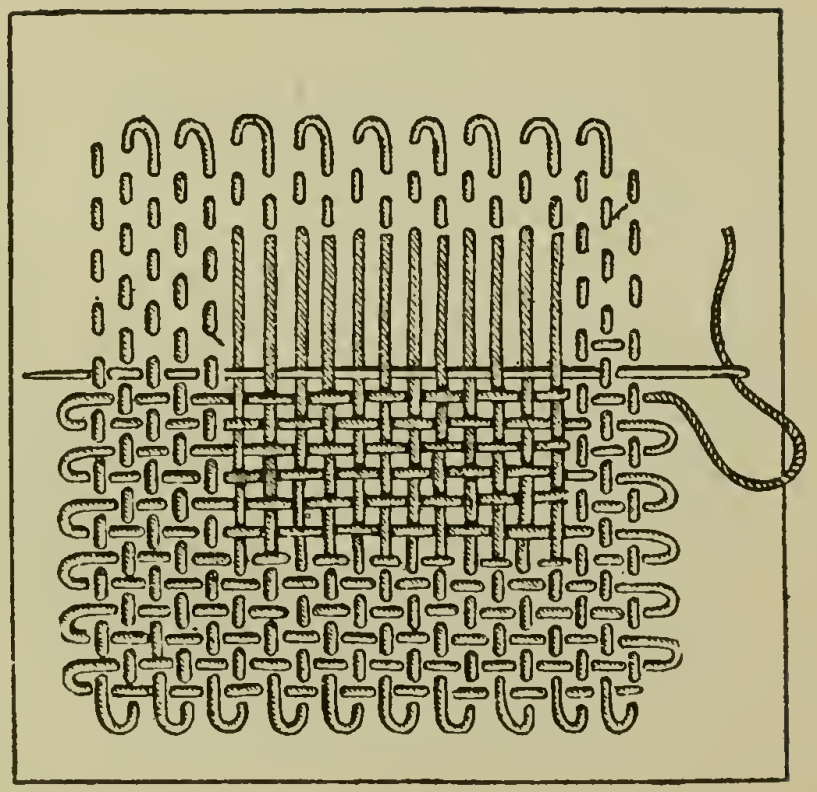


Fig. 30.— Method of making Woof Threads.

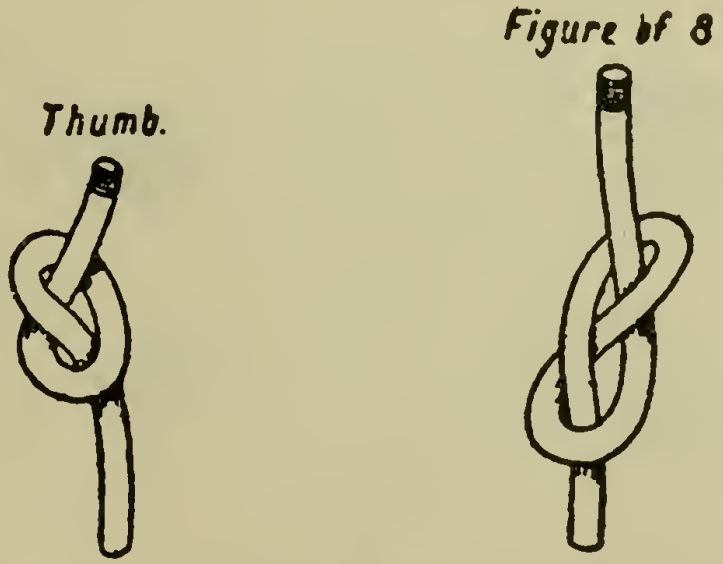
DARNING

use should be strictly forbidden to men and cadets in camp owing to their inflammable nature.

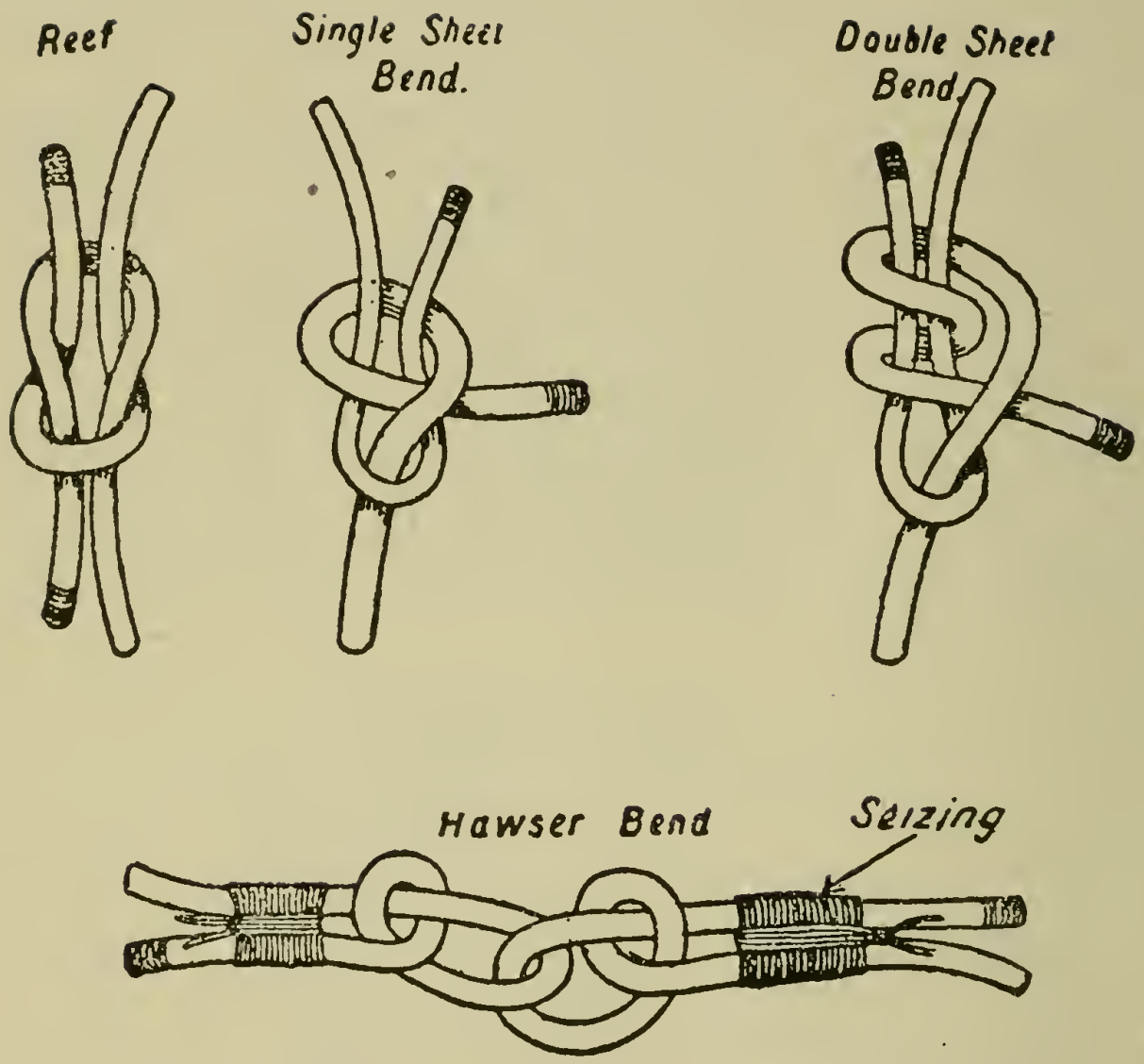
(iii) Grease stains may be removed by laying a piece of blotting-paper or brown paper over the stain, and then pressing with a hot iron on top of the paper, which will absorb the melted grease.

4. Directions for washing Flannel Shirts, Underclothing, Socks, etc.—To wash flannel shirts, underclothing, socks, etc., make a lather with ordinary washing soap in fairly hot water, dip in the garments, and wash thoroughly, taking care to remove all dirt. The water must not be too hot, or flannels will shrink and colours may fade. Next rinse out the garments in two or three lots of clean water until they are free of soap, then wring out quickly, and hang to dry, if possible, out of doors in the case of flannel garments. White cotton garments may be left to soak in cold water for half an hour with advantage before being washed in the manner described above, and should also, when possible, be dried in the sun. If facilities are available, garments should be ironed before being worn.

USEFUL KNOTS.

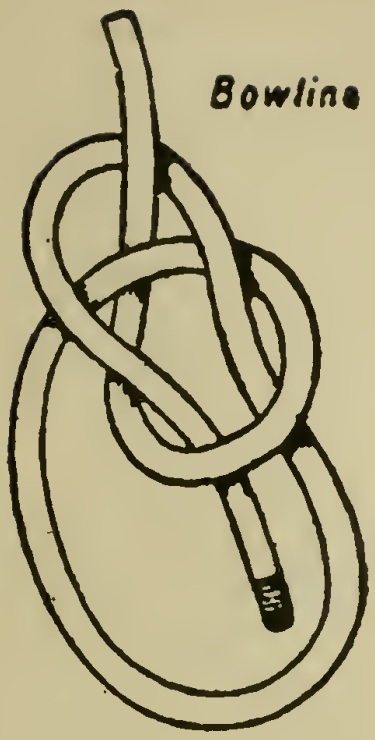


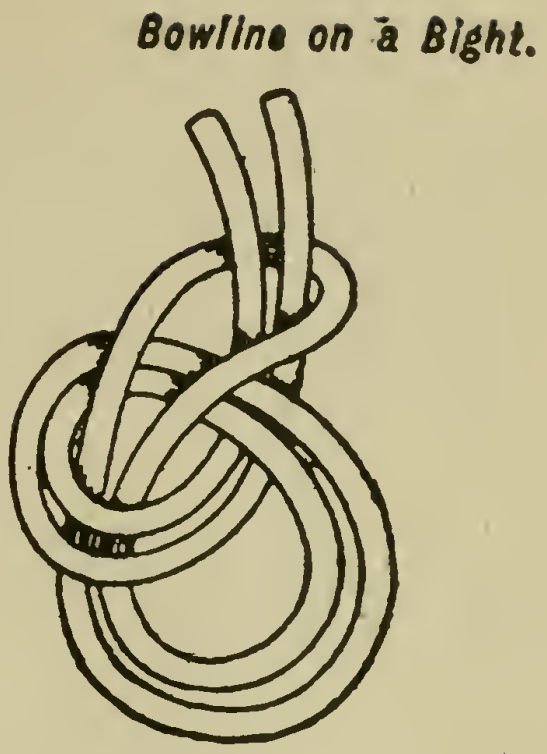
1. To make a stop on a rope, or to prevent the end from unfraying, or to prevent its slipping through a block—the *thumb knot* or the *figure-of-eight*.



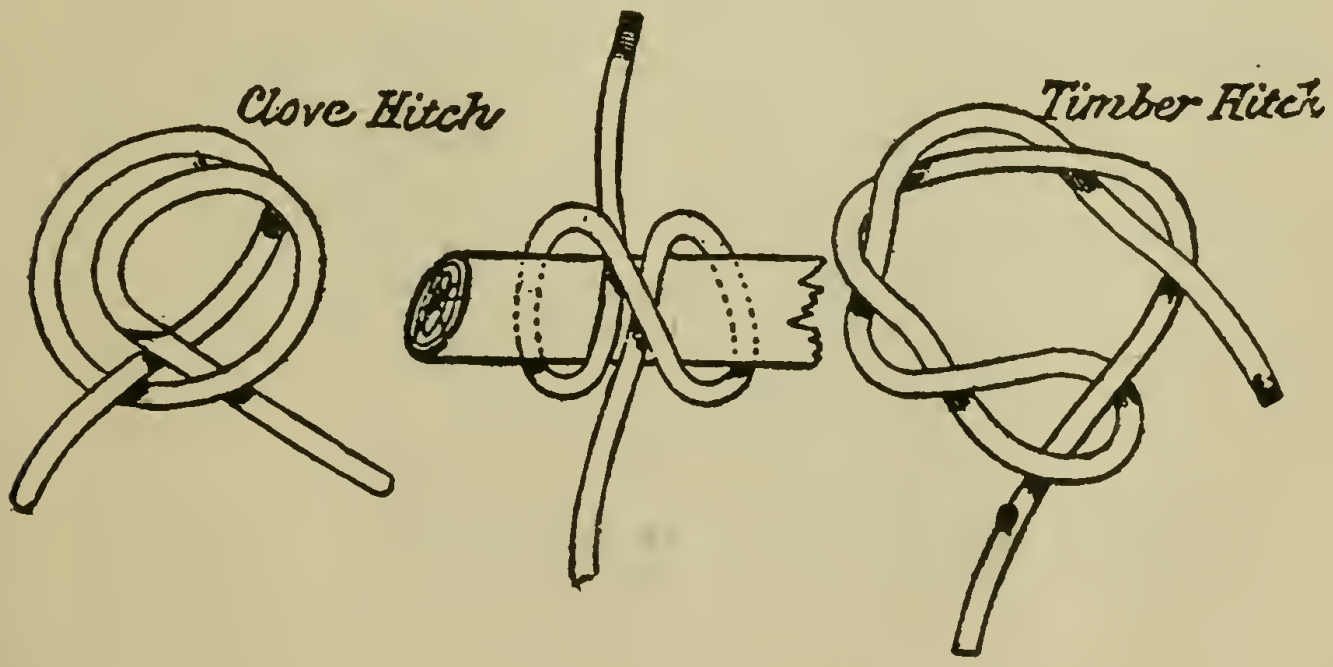
2. To join two ropes together—

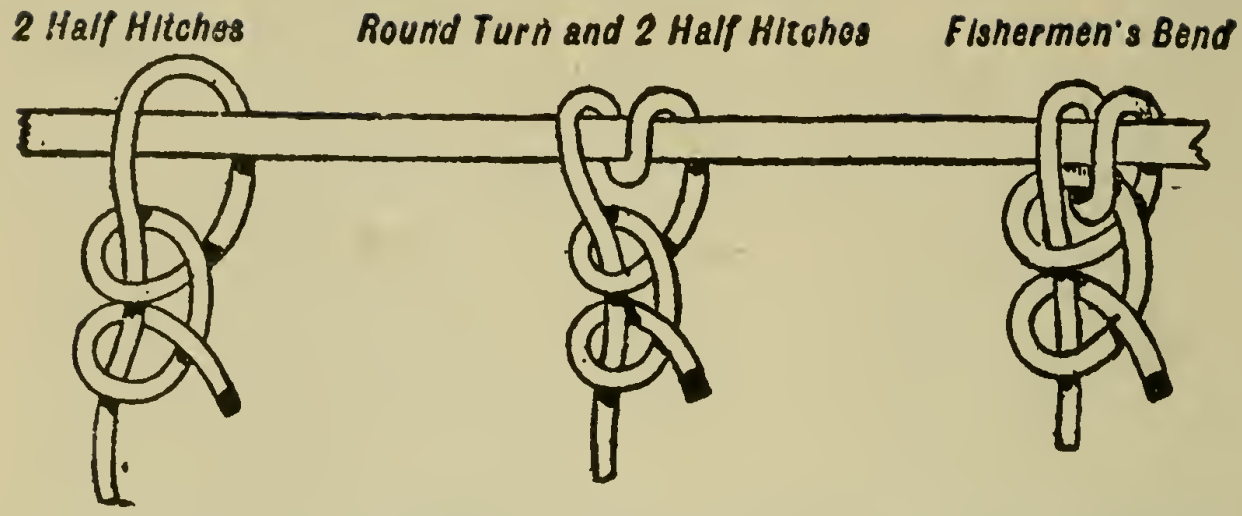
Same size (dry)	Reef.
Different sizes (dry)	Single Sheet Bend.
,, ,, (wet ropes) ..	Double Sheet Bend
,, ,, or large cables ..	Hawser Bend.



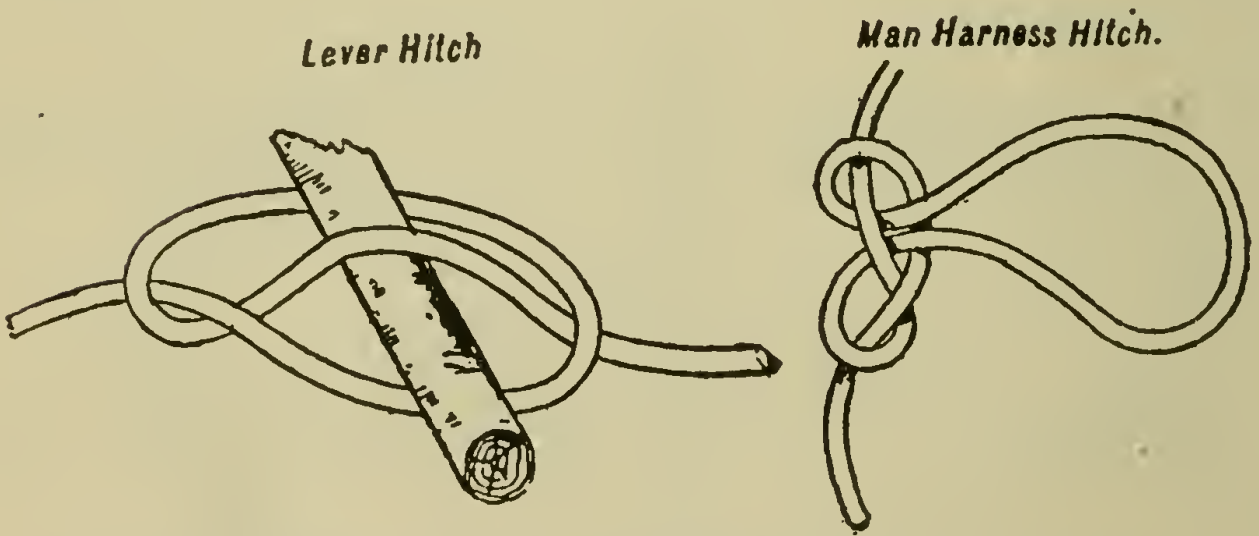


3 To form a loop or *bight* on a rope which will not slip—the *bowline* for a loop at the end of a rope, the *bowline on a bight* for a loop in the middle, with a double of the rope.



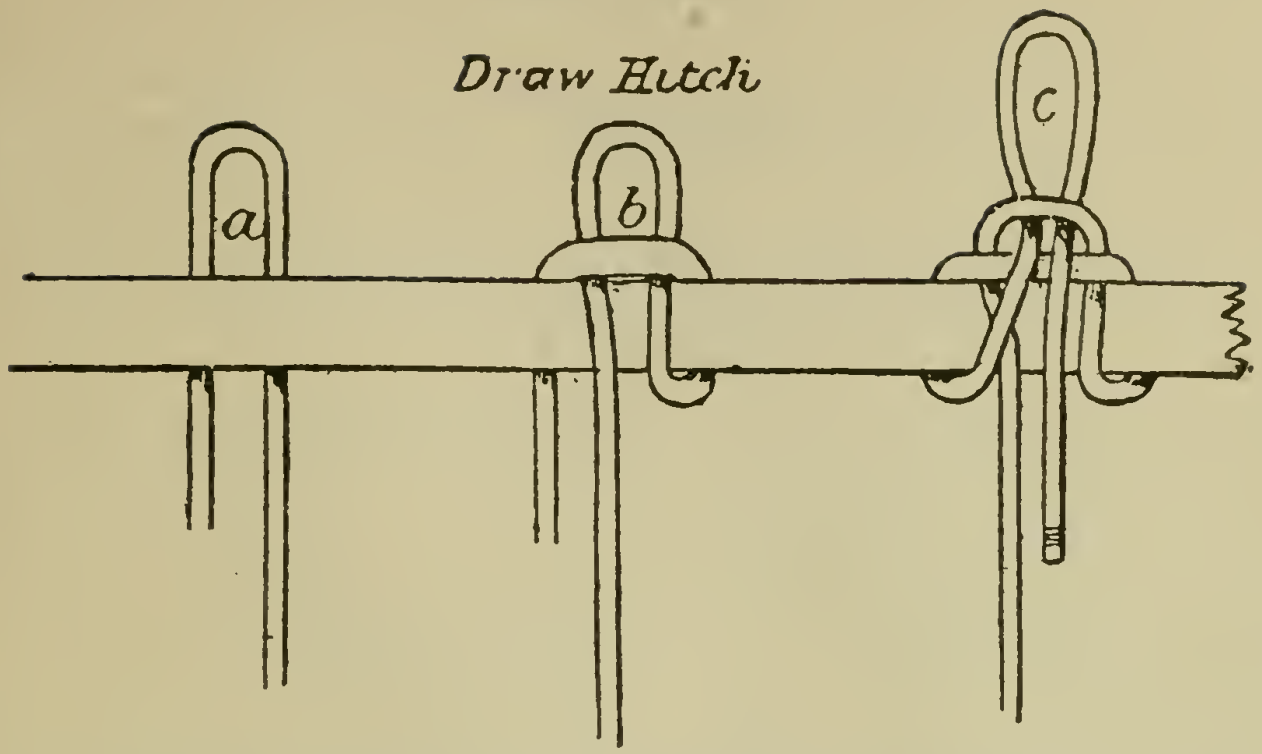


4. To secure the ends of ropes to spars or to other ropes—2 Half Hitches, Clove Hitch, Timber Hitch, Round Turn, and 2 Half Hitches.



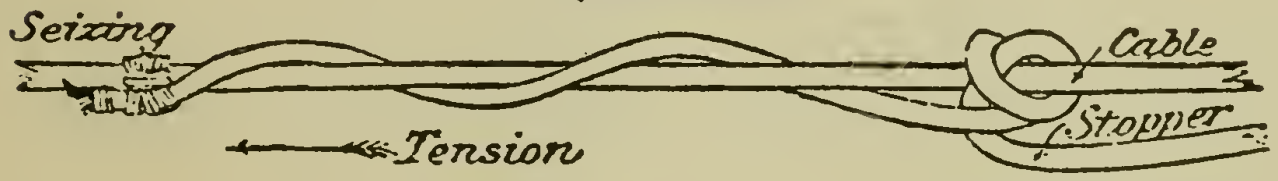
5. To fix a spar across a rope—Lever Hitch.
6. To form a loop on a drag-rope—Man's Harness Hitch.

Draw Hitch



7. To secure a head-rope, boat's painter, etc., to a post ring or rope, so that it can be quickly released—Draw Hitch.

Stopper Hitch



8. To transfer the strain on one rope to another—Stopper Hitch.

Cat's Paw on Centre of Rope.

9. To fix a rope with a weight on it rapidly to a block—Cat's Paw, or Blackwall Hitch.

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